PLANNING AND ZONING COMMISSION STUDY ITEM
STAFF SUMMARY
JUNE 1, 2021
PLANNING AND ZONING COMMISSION MEETING

DATE: May 27, 2022

AGENDA ITEM NUMBER: 7

TOPIC:

Study of the Town of Dillon Comprehensive Plan to determine focus areas and public engagement strategies for amendments and updates to the Plan.

BACKGROUND / TIME FRAME:

- February 2, 2017: Planning Commission review and recommendation for approval of the Town of Dillon Comprehensive Plan
- February 7, 2017: Town Council review and approval of the 2017 Town of Dillon Comprehensive Plan
- July 7, 2021: Planning Commission discussion / review of the Comprehensive Plan
- August 4, 2021: Planning Commission discussion / review of the Comprehensive Plan
- September 1, 2021: Planning Commission discussion / review of the Comprehensive Plan
- October 6, 2021: Planning Commission discussion / review of the Comprehensive Plan and finalize the Community Draft Public Engagement Survey
- October 22, 2021: Community Draft Public Engagement Survey Launch Event
- November 3, 2021: Planning Commission continued discussion on the Comprehensive Plan
- April 6, 2021: Planning Commission continued discussion on the Comprehensive Plan

SUMMARY:

The Comprehensive Plan is a long-range, evolving document that guides the Town in achieving the vision and goals of the community by establishing a framework for developing regulatory tools and advising decision making for the future of the Town of Dillon. Under the stewardship of the Planning and Zoning Commission, this dynamic document strives to promote the community's values, goals, and vision for the Town. The Comprehensive Plan is not a regulatory document but provides the background for advised decision making for establishing policies, for the delivery of services, for providing orderly growth and development criteria, embodies both current and long-range needs, and provides for a balance between the natural and built environment.

Please note that the Comprehensive Plan is a guidance document, meaning it's not binding on the Town. However, the Zoning Code is intended to carry out the purposes of the Comprehensive Plan. Please note that the Zone District Map contained therein is in need of updates.

Each zone district detailed in the Dillon Municipal Code has Zone District Purpose Statements which are also intended to carry out the purposes of the Comprehensive Plan. The Planning Commission may recommend amendments to the Purpose Statements, as well, particularly if Commissioners find that they do not align with the Comprehensive Plan. Town staff has worked with a planning consultant in reviewing the zoning code and the development of potential amendments to update the Dillon Municipal Code. Draft purpose statements are provided.

As part of this discussion item, the Town staff is particularly interested in whether the Commissioners agree with the permitted and conditional uses proposed for each zone district, and whether the Commissioners believe the permitted and conditional uses align with the Comprehensive Plan and the Zone District Purpose Statements.

Town staff would like the Planning Commission to study the Comprehensive Plan and determine if there are portions of the Plan that might warrant focus for potential amendments. The Commission is also asked to consider how they would like to engage the community in developing potential amendments of the Plan.

During the previous Planning Commission study sessions on the Comprehensive Plan, a few areas of interest were discussed:

- Workforce Housing
    - How can it be incorporated in the Core Area Zone District?
        - Parking challenges
    - CR 51 Workforce Housing
    - Zone district considerations
- Walkability, Connectivity, and Creating a Sense of Place in the Core Area
- Tourism & Recreation
- Transportation
    - Discussed mass transit and "micro transit"
    - Highway 6 improvements
- Community gathering spaces
- Land Use Guidelines and High Priorities (see table on 6-2)
- Utilities: updates are in process with some expansion into water conservation elements being considered for the Plan to align with the State of Colorado Water Plan
- Sustainable land and water use goals
    - Sustainable City Codes: https://sustainablecitycode.org/
    - Landscaping and irrigation regulations
    - Source Water Protection
- Summit County Housing Crisis

Tasks:

- Community Engagement:
    - Community Draft Event in October 2021
    - Other means of outreach – suggestions from the Commission?

        - Other engagement event
        - Another survey?
- Comprehensive Plan Amendments
    - Determine sections of focus
    - New or Expanded Sections
        - Tourism
        - Water Conservation
            - Include Dillon's Source Water Basin
            - Expand on water conservation: irrigation, landscaping
    - Work on draft amendment language

Based on a series of study sessions with the Planning Commission, there are a couple of areas where the Comprehensive Plan warrants the greatest attention. These are incorporating more about water in the Plan and expanding on Tourism and Recreation. Around these topics goals and policies need to be developed to include in the Plan. The present goal is to continue to work with the Commission to develop draft language for the Plan and work towards adoption of the amended Comprehensive Plan by the end of the year.

ATTACHMENTS:

1. 2017 Comprehensive Plan
2. Dillon Water Basin
3. Dillon Municipal Code Recommended Trees and Shrubs – Sec. 7-5-140
4. CSU Native Trees and Shrubs for Colorado Landscapes Fact Sheets
5. Town of Castle Rock Landscape and Irrigation Criteria Manual.

DEPARTMENT HEAD RESPONSIBLE: Ned West, AICP, Sr. Town Planner

Town of Dillon
2017 Comprehensive Plan

ACKNOWLEDGEMENTS

Town Council
Kevin Burns, Mayor
Mark Nickel, Mayor Pro-Tem
Brad Bailey
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Amy Gaddis, Vice-Chair
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Dan Burroughs, Community Development Coordinator
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Contents

Section 1: Introduction and Administration

I. Introduction

The 2017 Comprehensive Plan amendments include:

1. Updates to the Town Council and Planning and Zoning Commission members; and,

2. Section 6 Land Use amendments to reflect the desire of the community for greater residential densities in some zoning districts, to increase a mix of housing available for Summit County's workforce, to provide for a mechanism for residential developments in some areas of the Mixed-use zoning district that are underutilized and do not occupy key commercial frontages; and,

3. A new Land Use Map accompanies the amendments in Section 6 to more accurately depict the land use of various parcels in Town and to correct errors depicted on the previous Land Use Map.

The Dillon Comprehensive Plan is intended to be general, which means the policies and proposals adopted within the Plan are broad in nature and do not necessarily indicate specific locations of activity or use, or specific actions. As used in this document, Comprehensive Plan means a generalized, coordinated land use map and policy plan for the Town of Dillon, Colorado. The Plan is also comprehensive in nature, meaning all-inclusive, both in terms of the geographical areas, and the activities, systems, and issues addressed by the Plan.

In general, the Comprehensive Plan:

- Is an expression of public policy in the form of policy statements, generalized maps, standards and guidelines.
- Will be used as the basis for future Town decisions dealing with capital improvements, Town projects, open space acquisitions, urban design projects, and the evaluation of annexations and development proposals.
- Will be used as the basis for more specific rules, regulations, and ordinances that implement the policies expressed through the Comprehensive Plan.
- Has been prepared to help assure that public actions are consistent and coordinated with the policies expressed through the Comprehensive Plan.

The Town has adopted a "Mission Statement" that relates directly to the comprehensive plan and the future of the Town. The mission statement, in concert with the Town Council's existing "Public Policy Goals" and the Town's brand platform, guides the goals and policies contained within the remainder of this plan.

Town of Dillon Mission Statement

Dillon is a vibrant community with a proud history and an exciting future that enhances its unique recreational, economic, educational, and environmental characteristics. The Town is dedicated to providing high quality services to its residents, businesses, and guests through responsive government and through enhancement of cultural and recreational activities in a pedestrian friendly environment.

Town of Dillon Town Council Public Policy Goals

- *The Town of Dillon values proactive engagement of our residents, businesses, visitors and local/ regional partners to promote a positive sense of community.*
- *The Town of Dillon promotes community revitalization and supports sustainable development of a thriving and vital community.*
- *The Town of Dillon supports cultural, recreational and educational amenities and opportunities that enhance the Town's unique qualities.*
- *The Town of Dillon provides conscientious stewardship of Dillon's resources, amenities and environment, now and into our future.*
- *The Town of Dillon values promotion of Dillon as a welcoming and responsive place to live, work and have fun.*

Town of Dillon Brand Platform

The Town of Dillon's 'Mountain Lakestyle' embodies 360 degree awe-inspiring mountain and lake views enriching a truly unique and special way of life pursued with passion and desire for simple, joyful, and authentic experiences through every countless opportunity.

II. Purpose

The primary purpose of the Dillon Comprehensive Plan is to provide a framework for decision making which encourages public and private decisions be made in a manner that enhances the livability of the community, by adopting goals and policies that encourage local development decisions that are in the best interest of the community.

III. Plan Development

The 2017 Town of Dillon Comprehensive Plan is a minor update to the previously adopted plan which involved extensive and concentrated community outreach and effort.

IV. Plan Revisions and Updates

As per the Dillon Town Charter, it is the responsibility of the Town Council to maintain a Comprehensive Master Plan for the physical development of the Town. It is the responsibility of the Planning and Zoning Commission to review the plan at least once every three years and to recommend plan changes and revisions to the Town Council to ensure the plan continues to represent the goals of the community.

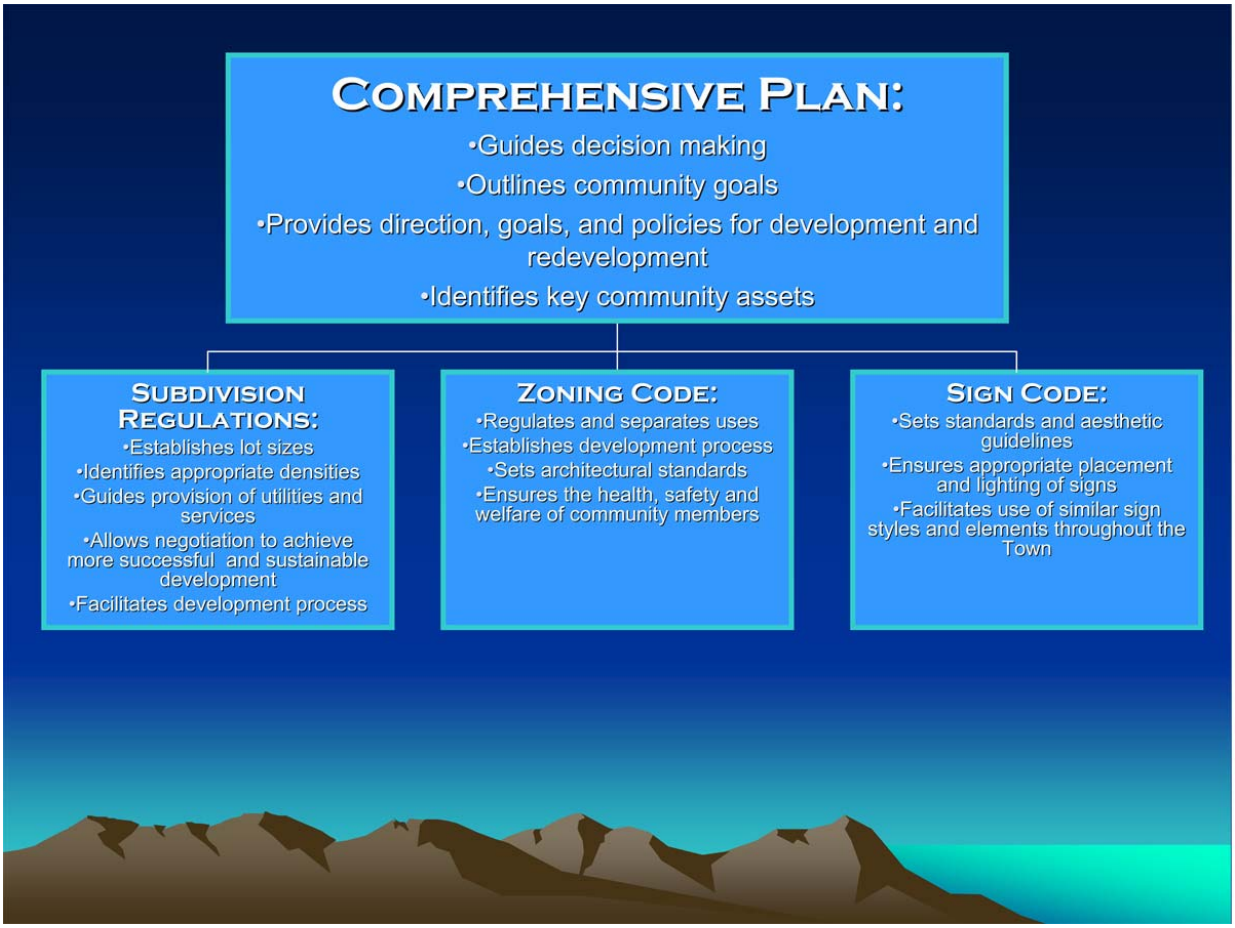
Minor changes to the plan which have little effect on the Town should be made as needed to maintain the plan as an up to date guideline for community decision-making.

In addition to review of the Comprehensive Master Plan on a three-year time frame, the Town shall evaluate the Three Mile Plan for Annexation and revise it, or reaffirm the policies contained within the Three Mile Plan on a yearly basis, as required by Colorado State Statute, C.R.S. 31-12-105 et. seq.

Private Citizens and entities may also initiate a request to revise the Plan upon the payment of a plan amendment fee. Plan amendments requested by private citizens and/or entities will be considered only once a year with requests to be submitted in November for consideration by the Planning and Zoning Commission in February. A public hearing will be held by the Planning and Zoning Commission and the request evaluated according to the following criteria:

- Conformance with community goals and policies.
- Compatibility with existing and planned land uses.
- Conformance with community desires and interests.
- The request should not result in detrimental impacts to public facilities and services.
- The request should not result in negative impacts to the transportation system.
- The request should demonstrate a land usage need, consistent with environmental and economic goals, which are not being provided for in Dillon.
- The request should not have a negative impact on the Town's image and character.

The Planning and Zoning Commission, after conducting a public hearing, shall forward their recommendation to the Town Council, who will review the request at a public hearing and make a final decision based on the criteria listed above.


COMPREHENSIVE PLAN:
•Guides decision making
•Outlines community goals
•Provides direction, goals, and policies for development and redevelopment
•Identifies key community assets
SUBDIVISION REGULATIONS:
•Establishes lot sizes
•Identifies appropriate densities
•Guides provision of utilities and services
•Allows negotiation to achieve more successful and sustainable development
•Facilitates development process
ZONING CODE:
•Regulates and separates uses
•Establishes development process
•Sets architectural standards
•Ensures the health, safety and welfare of community members
SIGN CODE:
•Sets standards and aesthetic guidelines
•Ensures appropriate placement and lighting of signs
•Facilitates use of similar sign styles and elements throughout the Town

V. Goals and Policies

Administration

Goal: ***To achieve public interest, understanding, and support of the planning process and to provide adequate opportunities for the community to participate on a continuous basis in the preparation and review of the Town's Comprehensive Plan.***

Policies:

Maintain the Dillon Comprehensive Plan as an ongoing decision making guide for planning and development actions within the Town of Dillon. The Plan must respond to changes in economic conditions, public values, human needs, social interests, technology changes, legislative actions, and other various influences.

Undertake a general review of the Plan once a year to determine if any changes have taken place within the community that warrants a full review of the Plan. This general review should occur in conjunction with the re-adoption of the Three Mile Annexation Plan.

Review the Plan every three years as required by the Town Charter to ensure the Plan continues to represent the goals of the community.

Ensure all Town ordinances are in compliance with the adopted maps and policies of the Plan. Ordinance amendments, deemed in the public interest, that are contrary to the intent of the adopted Comprehensive Plan should be reviewed and amended as Comprehensive Plan changes prior to any action on the ordinance.

Maintain a Capital Improvement Program which contains a schedule of public improvements, costs, and revenue sources consistent with the Comprehensive Plan.

Encourage elected and appointed officials and staff to solicit citizens' involvement and opinions related to land use issues.

Continue to update all development ordinances to improve the process by which subdivisions and development proposals are reviewed.

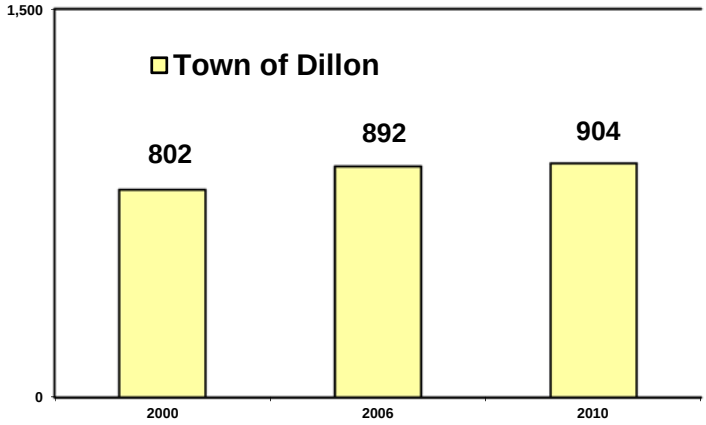
Section 2: Background and Setting

I. Background

The Town of Dillon is located approximately 70 miles west of Denver, just south of I-70 in Summit County, Colorado. The original town was established in 1883. The Town was moved three times before the last move in 1961 in response to the construction of Dillon dam and reservoir. Prior to moving, Dillon was the most populated Town in Summit County with approximately 814 residents and 39% of the County's population. The 1970 census indicates Dillon had a population of 182 people shortly after its relocation, and ranked fourth in population in Summit County behind Breckenridge, Silverthorne, and Frisco.

In 2006, Dillon had a population of 892 and continues to rank as the fourth most populated Town in the County. The 2010 U.S. Census data shows that the population of Summit County reached 27,994 in 2010. The 2010 permanent population of the Town of Dillon was recorded at 904. Dillon represents approximately 3.2 percent of the County's total population, compared to 7 percent in 1970. Although limited in permanent population, the peak population can range between 900 and 5000 people due to the nature of the seasonal tourism and second home ownership in Dillon.

Town of Dillon Population Trends



II. Geographical Setting and Planning Influences

Within the Snake River basin, the Town of Dillon is located at the northern edge of Dillon Reservoir and runs from a joint boundary with Silverthorne on the west to the east end of the Dillon Cemetery property on the east end of Town. The Snake River basin can best be described by incorporated urban areas at the west end, with open space and residential uses at its midpoint, and Keystone, a destination resort, at the east end . While most of Dillon is located in areas that are relatively flat, portions of Dillon on the north side of Highway 6 including the Corinthian Hill subdivision have been developed on hillsides. Most of Dillon is located in areas that have little potential for future natural disasters relating to avalanches or earth slides, but as Dillon continues to grow and looks at developing areas that contain steeper hillsides, the potential for development to conflict with areas with natural hazards increases.

A number of natural and manmade features have had an influence on the development of Dillon since it was moved to its present site in 1961. These include Dillon Reservoir, Highway 6, Dillon Valley to the north, development in neighboring Silverthorne, the completion of Interstate 70, and other similar actions and facilities.

The Town is surrounded by a mixture of land uses. The Town of Silverthorne and the unincorporated subdivision of Dillon Valley are located immediately to the west, north and northwest, and immediately east are a number of residential subdivisions including Summerwood and Summit Cove. The Dillon Reservoir to the south of the Town has a major influence on the Town, providing summer recreation opportunities, but also creating a physical barrier to future development in that direction. Forest service property dominates the area northeast of Town on the north side of Highway 6 and provides an open space buffer and backdrop for the community.

Dillon's location close to the intersection of Highways 9 and 6 and Interstate 70 has a major influence on the Town. It provides primary access to the Town from across the nation and provides a direct link to the Denver metropolitan area 70 miles to the east.

III. Existing Land Use Patterns

The existing pattern of development within Dillon has been influenced by a number of factors including existing land use regulation, natural features and constraints, ownership patterns, transportation systems, other manmade facilities, and numerous private development decisions.

The relocation of Dillon to its present site during the construction of the Robert's Tunnel and Dillon Dam in 1964 established the primary framework for Dillon, and this decision continues to have an impact on the community today.

Residential. Land designated for residential uses accounts for the majority of land within the Dillon Comprehensive Plan area. Residential land use is primarily of four (4) types: single family residential, medium-density multi-family residential, high-density multi-family residential, and mixed-use residential.

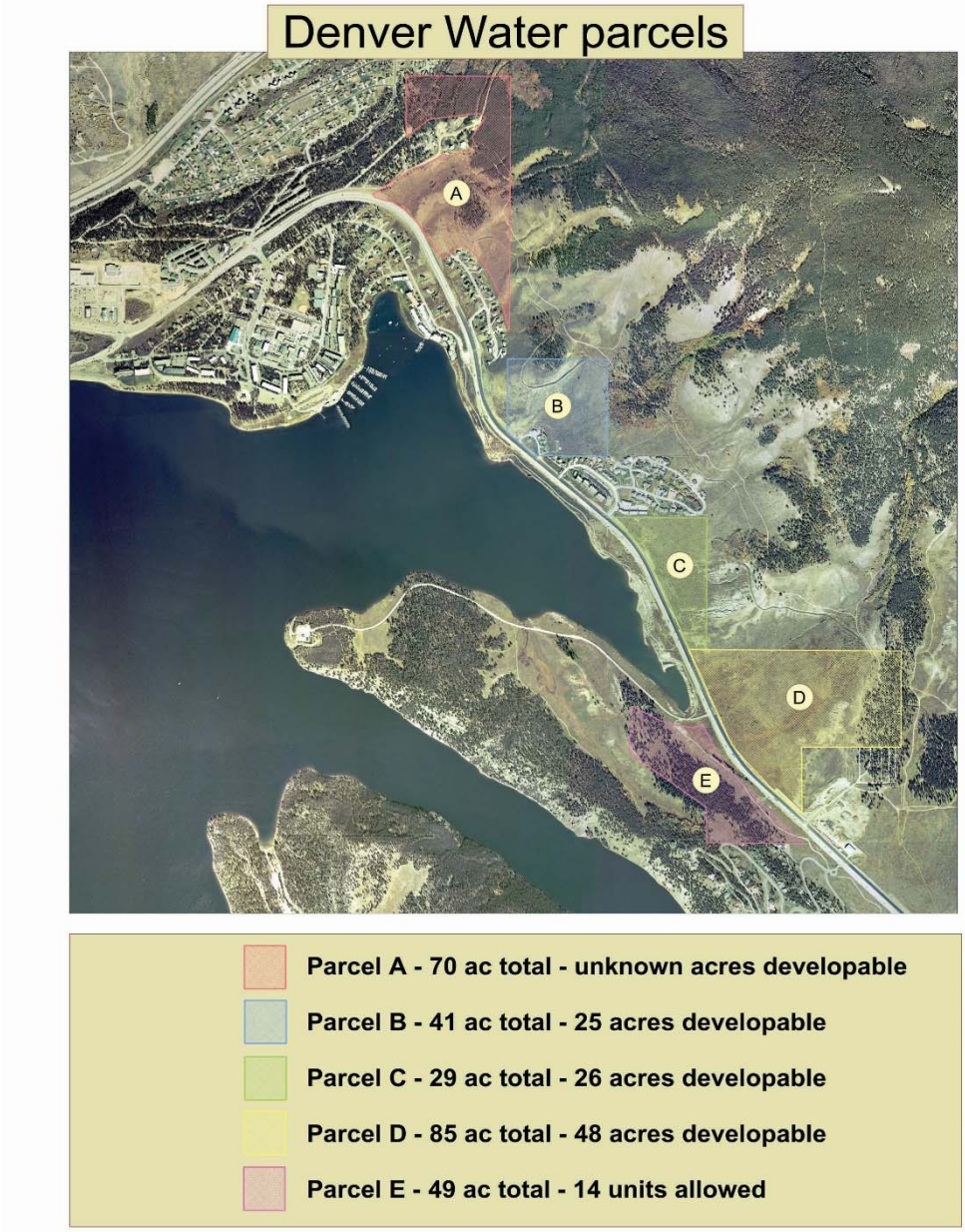
Residential land uses have developed in a pattern that surrounds the Dillon Town Center, while the Town Center has residential use in mixed-use buildings.. Low-density single-family uses were developed both east and west of the Town Center. These developments can be found adjacent to Buffalo, Three Rivers, and West La Bonte Streets to the west, and primarily adjacent to Tenderfoot and Gold Run Circle to the north and east of the Town Center. Multi-family uses were primarily developed adjacent to Lake Dillon. This overall pattern has changed slightly over time as the Tenderfoot Addition and Corinthian Hill subdivisions were developed east of the Town Center adjacent to Highway 6, expanding Dillon linearly along Highway 6. Lookout Ridge Townhouses developed near the Dillon Ridge Market Place.

The development of low density and multi-family residential units within Dillon has been dependent upon market conditions and has not shown any steady pattern of development over the past twenty years. The Town does not expect this erratic timing to change significantly in the near future, and anticipates future residential growth will occur in response to a number of national and local factors. These include the ability for many professionals to work from home using improvements in communication systems and transportation, and the need to provide various types of housing opportunities for local permanent residents and short-term residents employed in the resort industry. The first factor should have the effect of increasing the need for larger, high quality single-family homes, while the second factor, the need to house residents, will increase the need for attainable housing and multi-family units such as townhouses and duplexes. Workforce housing has been identified as a priority in several of the master plans as well as in Summit County comprehensive planning goals. The Town may also see changes in the occupancy patterns in existing housing units as more second home owners retire permanently to the area.

Commercial. There are two primary commercial areas within Dillon. The first and most important at the present time, based on sales generated, is the commercial center Dillon Ridge Market Place and the area surrounding it. Dillon Ridge Market Place is comprised of a major grocery store, sporting goods store, home furnishings stores, restaurants and real estate offices, and other supporting commercial uses within Dillon Ridge as well as along Anemone Trail. The Dillon Ridge Marketplace center is located north of the intersection of Highway 6 and the Dillon Dam Road, and was developed in the mid to late 1990's. A Walgreens store, three quick serve restaurants and three smaller retailers have been completed as part of the Ridge at Dillon PUD located between Little Beaver Trail and Dillon Ridge Road.

The size of Dillon Ridge and its location have made it the primary commercial center in the community. Previously the Dillon Town Center, or downtown, was the primary commercial center. As the Dillon Ridge Market Place has increased in importance as Dillon's primary commercial center, the Town Center has become more of an office location than a commercial center. The Town Center has become the focus of an economic revitalization planning process guided by the Dillon Town Council and the Dillon Urban Renewal Authority. Goals of these recent studies include increasing the year-round residential population in the Town Center, redevelopment of viable businesses, and to promote the connections between the Marina and the Town Center as a way to experience the many valuable assets of the Town.

Denver Water Board Vacant Land. The Denver Water Board owns four larger parcels of land within the Town limits, and one outside of the Town limits. The parcels consist of the parcel near the Town maintenance facility and water plant and between County Road 51 and the Tenderfoot Addition Subdivision - Oro Grande (Parcel A) which is not in the Town limits; the Denver Water caretaker's parcel to the west of Corinthian Hill, zoned Urban Reserve (Parcel B); the parcel east of Corinthian Hill, zoned Urban Reserve (Parcel C); and the parcel adjacent to the Dillon Nature Preserve, zoned for 14 units of residential density (Parcel E). Parcel E is also owned by Denver Water, but it resides within the Dillon Nature Preserve parcel deeded to the Town of Dillon from the Denver Water Board. A fifth parcel, Parcel D, is potentially partially developable, but has a large portion of it designated as the wetland fen that is to be preserved, and it is anticipated that the entire parcel would remain undeveloped. If any of these parcels are considered for development, the appropriate residential zoning will have to be considered with a focus on providing a broad range of housing types meeting the specific needs of the community, while closely considering the workforce housing demands. Denver Water stated their intentions in 2007 as follows:



- Parcel A – This parcel will be retained by Denver Water for the possibility of a future water diversion structure from Straight Creek. Denver Water has discussed subdividing this parcel to sell a small portion of it to the Town for an expanded Town maintenance facility or possible water storage.
- Parcel B – The "caretaker's parcel". Denver Water would continue to use this parcel for the use of their maintenance shop and workers' residences.
- Parcel C – Corinthian Hill East. . Development could occur in conformance with this Comprehensive Plan. Denver Water has no plans for disposal of this property at this time.
- Parcel D – The wetland parcel. Limited development could occur in conformance with this Comprehensive Plan. Denver Water has no plans for disposal of this property at this time.
- Parcel E – Adjacent to the Nature Preserve. Currently, Denver Water is allowed 14 units of residential density per the Nature Preserve IGA. Denver Water has no plans for disposal of this property at this time.

The Town continues to maintain an open dialogue with Denver Water concerning their holdings both within and adjacent to the Town boundaries.

Open Space and Public Land. Dillon is located in a recreationally oriented county dominated by winter sports and water oriented recreational activities, thus the provision of recreational facilities and services is an important component of community life in Dillon. A Parks and Recreation Master Plan was developed through a community planning process in 2006. Recommendations from this plan were adopted by the Town Council in 2007. This document will be used to inform parks and recreation planning decisions into the future, and has been instrumental in the Marina Park improvements and the planning and design process for proposed Town Park improvements.

Recreational facilities within the community include the existing Dillon Town Park just north of the Town Center, the Dillon Marina Park and amphitheater adjacent to Dillon Reservoir, and the Dillon Nature Preserve, located on the Robert's Tunnel Peninsula. This 173-acre Nature Preserve parcel was acquired from the Denver Water Board as a component of an annexation, and provides the community with a large permanent open space parcel. In addition, the Town maintains the bicycle and pedestrian systems that now tie the community into the countywide system. In 2003, the Town worked cooperatively with the Town of Silverthorne to tie the bike path through Lot 31 on East Anemone Trail. The Parks and

Recreation Master Plan noted the need to complete connections within Dillon to the countywide recreation trail. This has been accomplished by the construction of recreation paths on lower Gold Run Circle and Tenderfoot Street, as well as the path along Lodgepole Street that connects to the existing path system by running through Marina Park. In 2015, the Town completed improvements on a disc golf course through a cooperative effort with Denver Water and Summit County on their land near the Dillon Cemetery.

Forest Service lands around the edge of Town and the Summit County open space parcel (formerly known as the Fishhook Property) just east of the Town of Dillon's boundary, form an important backdrop to the community. The Forest Service continues to evaluate the importance of their holdings throughout Summit County.

Land utilized for public uses within the Comprehensive Plan area, other than for recreational and open space uses, include the Dillon Town Hall, the Post Office, the Fire Station, the Town Maintenance facilities, the Town Water Treatment Plant, the Dillon Marina, Colorado Mountain College, the Old Town Hall, and the Summit Historical Museum.

Dillon Amphitheatre

Private Recreational Facilities. Private recreational facilities are somewhat limited within Dillon, and consist primarily of the bowling alley located in the La Riva del Lago building in the heart of Town, and the movie theater at Dillon Ridge Market Place.

A private gym and a Pilates/yoga studio are also located in the Town Center, and other such facilities are located in other commercial areas of Town. Several of the condominium complexes have private clubhouses.

Section 3. Economic Overview

I. Introduction

Dillon's economy is tied closely to the rest of Summit County, and is influenced to a great extent by the tourist industry. Summit County's economy has grown from a mining and agricultural base in the 1950s and 60s to one that today is dominated by the ski / winter sports industry. Annual winter sports enthusiast visits have increased in Summit County from 60,515 during the 1960-1961 season to over 3.8 million for the 2010-2011 season. Summit County's four ski areas- Breckenridge, Copper Mountain, Keystone and Arapahoe Basin- annually account for over 30 percent of all skier visits within Colorado, and host more skiers per year than any other county in the United States.

Dillon has enjoyed a moderate rate of growth since its move in 1961. The Town has become a residential resort community and depends primarily on tourist trade for revenue. Dillon's location next to the reservoir is a major attraction for tourists. The Town has two revenue producing areas: the Town Center which includes specialty stores, restaurants, and offices, and the Highway 6 area, which is a highway oriented commercial area containing several restaurants, small retail stores, and Dillon Ridge Market Place shopping center.

Dillon's strategic location along Highway 6 near I-70 should allow Dillon to capture a consistent share of retail sales associated with the ski and winter sports industry each year. Until the development of the Dillon Ridge Market Place, retail facilities and short-term lodging were limited. The Town Center originally hosted a variety of retail and restaurant establishments, but is somewhat remote from the main thoroughfare provided along US Highway 6. Over time businesses left the Town Center as traffic bypassed the area. The development of Dillon Ridge Marketplace has proven successful and provided the Town with much needed sales tax revenue. This is reflected in the annual retail sales shown below. While retail sales have increased along the busy US Highway 6 corridor, the Town Center has not seen a similar growth. Dillon undertook improvements to the Town Center in the early 1990's.These efforts helped improve the image of the downtown, but the Town Center continues to have high vacancy rates and lower rental values. In 2006 the Town conducted an economic revitalization study, often referred to as the Leland Study. The Dillon Economic Revitalization Advisory Committee (DERAC) was formed in 2007 to evaluate the recommendations from the Leland Study, which looked at economic revitalization strategies for the Town Center. The DERAC report and recommendations were adopted by the Town Council in September 2007. These recommendations will inform development and planning decisions for the whole Town, with a specific focus on the Town Center.

II. Statistics

Sales tax in Dillon has increased with the development of Dillon Ridge Market Place and other associated developments. Dillon captured approximately 8.0% of countywide retail sales in 2006. This is a trend that should continue as Dillon Ridge Market Place and surrounding area is fully developed. Dillon remains a small generator of overall County sales tax in comparison to the other towns. Losing market share in the larger County economy continues to be a concern.

The continued success of the Dillon Ridge Marketplace development, additions of retail and restaurant uses along Highway 6, and the construction of a Walgreens store and other complementary retail at the Ridge at Dillon should continue to improve the Town's retail sales standing in the County. Redevelopment of the Town Center is a remaining untapped source for future retail improvements which is anticipated to be addressed through the formation of the Dillon Urban Renewal Authority (DURA).

The Town of Dillon faces some unique challenges to improve its economic viability. There is a perception that much of the Town Center has high vacancy rates. While vacancies do exist in the La Riva and Dillon Plaza buildings, available spaces are limited in the majority of the other buildings in the Town Center. The majority of the businesses in the Town Center are service based offices; as such, the number of retail stores is somewhat limited. As an office park the Town Center is successful, but the Town Center lacks a vibrant downtown with many shops, bars, and restaurants. Dillon Ridge and the surrounding commercial areas have remained stable. The Town is limited in its ability to develop additional commercial opportunities due to the scarcity of vacant land and the limitations to annexation, with Silverthorne directly to the west and the surrounding unincorporated neighborhoods and open space to the north and east. Thoughtful and purposeful implementation of Town Center revitalization will help bolster and stabilize the economy of the Town.

Graph of Annual Sales Tax Collections by the Town of Dillon between 2011 and Projected to the end of 2017.

III. Goals and Policies

Goal: ***To broaden and enhance Dillon's long-term vitality while at the same time establishing the Town Center with a unique and lasting sense of place.***

Policies:

Strive to provide an economic environment that helps promote, expand, and strengthen existing commercial activities.

Encourage a diversified economic base for the community that emphasizes niche markets and supports retail, while strengthening the viability of businesses and is compatible with the environmental resources of the community.

Continue to zone adequate land for commercial uses and establish land use patterns that promote a strong economic climate.

Promote economic development in a responsible manner with due consideration to public cost, energy availability, land use compatibility, and transportation access.

Promote year-round tourism by creating opportunities for entertainment, recreation, and the enjoyment of the natural environment.

Promote a synergistic relationship between all town businesses through the creation of a merchant's association.

Increase the number of year round residents in the Town Center to promote a pedestrian and lively atmosphere, encouraging both day and evening activities.

Goal: ***To revitalize the Town Center utilizing opportunities for economic expansion, tenant stabilization and diversification aimed at strengthening Dillon's year-round economy.***

Policies:

Continue to pursue and implement recommendations from the DERAC report, the Leland Study, the Parks and Recreation Master Plan, and the Marina Master Plan.

Utilize the Dillon Urban Renewal District to support redevelopment activities within the Town Core.

Create a portfolio to provide to prospective new businesses that outlines the results of the market survey, demographic data, and incentives to attract new businesses.

Research alternative incentives to attract new businesses. These could include incentives for taxes, creation of public gathering spaces, zoning, financing, parking, and increased density facilitated through an Urban Renewal Authority (URA).

Enhance the social vitality of the Town by creating a sense of place through streetscapes, events, and building design elements.

Encourage the preservation and enhancement of commercial development and redevelopment in the Town Center as a method to better serve residents and visitors.

Intensify land uses in the Town Center to promote more activity. Retail, restaurants, and entertainment uses should be encouraged over the use of the town center for office or other uses that do not generate sales revenues.

Encourage the development of additional hotels and/or owner-occupied housing in or near the Town Center to promote human activity.

Continue to evaluate the Town Center and identify additional improvements that can boost the economic climate of the community.

Strengthen connections between the Marina and lakefront and the Town Center through physical design changes, signage, and activities which encourage experiences not just at the lake but also in the Town Center.

Section 4: Natural & Manmade Environment

I. Introduction

The purpose of this section is to develop goals and strategies that will ensure that the environment within and adjacent to the community is preserved and enhanced. These resources are necessary to ensure the health and well-being of the community, and include such diverse components as wildlife protection, wetlands protection, air and water quality, erosion control, steep slope protection, and issues related to noise pollution and various visual aspects of the community.

II. Values

Air Quality:

Preservation of air quality within the community is of utmost importance, as air pollution from various sources could have a detrimental effect on the quality of life for residents and visitors to Dillon and presents various health concerns. Air pollution is presently created by automobile and truck traffic that travels through Dillon on Highway 6 and on adjacent Interstate 70 in addition to pollution created by wood-burning appliances within the community. U.S. Highway 6 is a main artery in Summit County, but is also a heavily used route for trucking companies driving through Colorado, and vehicle emissions can impact the Town's air quality. Highway 6 is the only allowed route for hazardous materials traveling east or west over the continental divide, except when Loveland Pass is closed. Another significant potential source of particulate air pollution is the potential for a significant forest fire in the area.

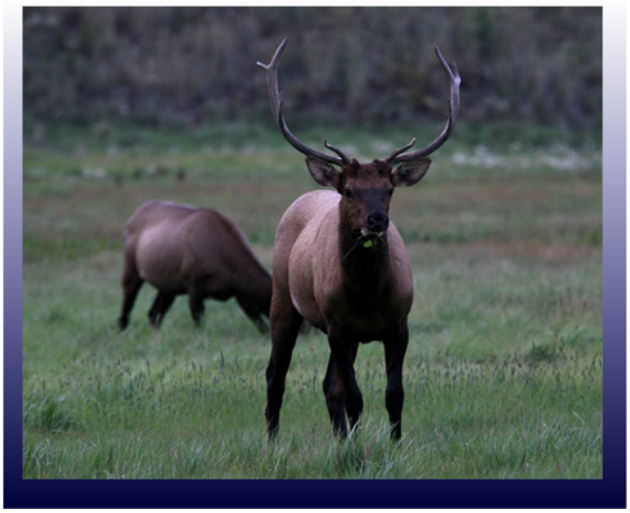
Water Quality:

Preservation of water quality within and adjacent to the community is of extremely important as well, as poor water quality can affect the health of the citizens of the community and the community's economic viability. The health of Straight Creek and Dillon Reservoir, from which the community derives much of its summer tourism and activity, is critical to continued economic and recreational activities within the Town. An unhealthy lake, including impacts from phosphorous loading, would have a negative impact on the community. Erosion and runoff into the lake and into the Blue River below Dillon should be controlled in a manner that maintains or reduces pollution into these critical water bodies. Another source of pollution into these water bodies is sanding and snow-storage during the winter months. The Town and other governmental agencies need to create snow storage and sanding programs that keep pollution from entering the various water systems in and adjacent to the community. In March 2002 the Town enacted water quality and erosion control regulations.

Perhaps the highest concern for water quality is within Straight Creek since the Town derives up to 2.26 million gallons per day (mgd) from this water source. Several years ago the Town joined with CDOT and adjacent entities and obtained a grant for clean-up efforts. The grant paid for work to rid the floodplain of Straight Creek of traction sand from I-70 and to improve flows. The potential for both non-hazardous and hazardous spills into Straight Creek from I-70 is a concern since such would directly affect the Town's use of this primary water source. CDOT continues to maintain this project to ensure its ongoing success.

Wetlands:

The protection of wetlands is critical to the health of the community. Wetlands provide wildlife habitat, help reduce pollution downstream, act as a water filtration system, and provide natural islands within the community. There are at least two varieties of wetlands found within the community. The most important is The Fen located along Highway 6, just to the west of the Dillon Cemetery. This Fen is of nationwide importance as it is a rare sedge wetland created from glacial waters (for more information, see the 1997 Summit County Conservation Inventory report on file at Town Hall). The Fen creates a natural break between land available for development and land that should be preserved. The Land Use Focus Groups during the 1999 and 2004 plans believed that The Fen was of such importance that it should be the eastern edge of any development that is allowed within the Town. The Fen and the land east of The Fen should be preserved for open space uses, and/or community recreational purposes. Several other wetland areas exist in Town along Straight Creek. In March 2002, the Town adopted new wetland regulations (under Section 17: Subdivision Regulations, Dillon Municipal Code) which limit development activity in and around wetland areas.



Wildlife Protection:

There are a number of species of wildlife that either live within the Dillon environs or travel through Dillon to get to winter range as a part of their normal migration patterns, as outlined in the Department of Wildlife's WRIS (Wildlife Resource Information System) maps. Much of the critical wildlife activity and habitat within Dillon is located along Highway 6, east of the community near the cemetery, and above these areas in the National Forest Service lands found to the north. Although wildlife habitats exist elsewhere in the community, the variety and quantity of wildlife species along Highway 6 is the greatest.

Noise Pollution:

Noise pollution within Dillon is created by various activities related primarily to traffic and commercial uses found along Highway 6. Homes built near Highway 6 are impacted by the success of the county in terms of increased traffic on the highway, as well as vehicles entering and exiting the commercial areas adjacent to it.

Noise pollution is of critical importance to Dillon's residents. Both highway noise and tavern noise are concerns of the residents, and the Town has instituted a noise ordinance addressing a maximum decibel level for nighttime uses. As Keystone Resort continues to expand and draw tourists and the Summit Cove area continues to grow, the Town is impacted by increases in traffic to these areas via Highway 6. Expansion of travel lanes on Highway 6 combined with existing residential housing along the highway impacts residents with noise pollution on a daily basis. The Town should buffer existing (if feasible) and future residential development along the highway and increase enforcement of noise impacts.

In 1999, the Town enacted a Jake brake ordinance that declared the use of engine brakes a nuisance. Since that time, the Town now defers to the state regulations governing the use of brake mufflers and has collaborated with CDOT to erect signs communicating the requirement to truckers. The Dillon Police Department also received a grant in 2007 for training from the Colorado Division of Criminal Justice. This grant support will be used for ongoing training and development of an equipment inspection program to monitor the high volume of semi-truck traffic through the Town.

Aesthetics:

There are a number of values within the Comprehensive Plan Boundary that relate to the visual and aesthetic quality of the community, including pollution from lighting to the quality of the built environment. A critical aspect of the community is the built environment. The Town should set goals to develop key new amenities, including:

- New structured and underground parking
- Redesign of Lake Dillon Drive including a substantial pedestrian parkway with landscaping, art and design features to the lake front
- New town square to accent the Town Center public venue and arrival
- New community gathering centers
    - Public, year-round, indoor recreation opportunities
    - Meeting rooms
    - All ages gathering
    - Event venue
    - Other public uses
- New Town Hall / Government Center
- New Performing Arts/Event Center

- Comprehensive pathway system
- Lake front enhancements
- Landscape enhancements
- Town Park redesign
- Right of way design:
    - Way finding
    - Street improvements
    - Lighting
- Event design
- Town identity/landmark program
- Public art

The Dillon community values the Town's identity and history. The Town border is directly adjacent to Silverthorne and it is important for people to notice and recognize the separation. Dillon should have its own character or identity; and it should be consistent throughout the Town.

The Town Center needs consistency in architectural design that strives for unity and interest. The Town needs to continue to work on creating architectural design guidelines that reflect the brand position of the Town, and new projects, or façade improvements to existing buildings, should utilize those guidelines during their design. Community gathering spaces in the Town Center and a link to the Marina should be planned. The Town should research and enact a program for incentives for redesign of older, outdated buildings. The Town should also encourage people to live and work in the Town Center. Since a large portion of Dillon's residences are second homes, the Town should implement policies that encourage year-round, owner-occupied housing. Small and diverse support retail should be encouraged.

Light pollution:

Lighting along Highway 6 is a prime concern for many residents as the lights from vehicles adversely impacts their ability to sleep as well as inhibiting clear views of the mountain night sky. Some residents are also impacted by lighting within the commercial developments in and adjacent to the Dillon Ridge Market Place. These light sources (both moving and fixed) create glare for residents located near the source, and adversely affect the night time sky.

Mountainous areas naturally create lighting conflicts in urbanized areas, as downcast lighting from one area might cause light pollution for a property at a lower elevation. The Town continues to have problems with commercial lighting impacting residential areas. Dillon could be dark sky compliant, where appropriate, with the implementation of codes for full cut-off lighting. The Town should consider different lighting regulations for the Town Center; refer to the Light Pollution Goals and Policies in Part three of this section. The Town should also encourage the use of energy efficient light fixtures. The Town has recently started replacing all Town owned street light fixtures with new LED street lights with a singular design style (pictured left). The redevelopment of the Town Core should incorporated lighting regulations specific to that district to include up-lighting of trees and building facades, and to create lighting for pedestrian safety to make the core an enticing, pedestrian friendly environment at night.

Landscaping:

Recognizing that trees and landscaping grow at a slower rate at this altitude than in areas such as the Front Range, it is important that plantings in Dillon are of a high quality and are successful beyond the first year. The Town should provide education to development applicants and homeowners regarding the native species most likely to survive in this climate and altitude.

Mountain pine beetles have become a serious threat to the tree health of Summit County and Dillon. Although it may be difficult to battle a statewide infestation and given the maturity of trees within Dillon's forests, Dillon should continue to encourage diversity of tree species, maintenance of tree health, and retention of healthy trees. Thinning of trees on private property is reasonable, even if it is for views. However, the Town should protect healthy and viable old-growth trees. The Town also should aggressively implement the Forest Management and Reforestation Plan adopted in 2009. Annual budgets should continue to support reforestation and silviculture on Town lands

The Town maintains a weed management program aligned with the County weed management program. The Town should continue these joint efforts and maintain a current inventory of invasive species. The Town should also continue to assist residents in identifying and eliminating weed infestations on private land.

Wildfire:

The Town has been actively participating with the Summit County Wildfire Council in the establishment of a Wildland Urban Interface (WUI) map. These efforts allow the County to apply for federal assistance in establishing defensible space around buildings under threat from wildfire. The incidence of wildfire has increased exponentially in the West over the past twenty years, and the climate trends indicate the threat could increase in the future. Summit County has not experienced extensive wildfires in recent years, and with the abundance of deadwood from the pine beetle kill, the entire County is at risk. The Town should implement policies to assist homeowners in responsible landscaping choices, and educate the public about the importance of defensible space. Current adopted fire codes require defensible space inspections for new structures or additions.

III. Goals and Policies

Natural Environment

Goal**:* ***To protect the environment and improve it whenever and wherever possible.

Policies:

Discourage development within or adjacent to areas identified as potential hazardous areas (steep slopes, unstable soils, flood plains, etc.), and developments proposed for any areas considered to pose a hazard should submit engineering investigations of the site and mitigate any potential negative impacts.

Limit development on slopes of greater than 20% and require engineering investigations of sites over 20% during project review. Development on slopes in excess of 20%, if allowed, should maintain the maximum vegetative cover possible to protect soils, prevent land slippage, and retain wildlife habitat, view corridors and open space resources.

Require that the implications of any potential geological and geo-technical constraints be appropriately addressed by persons experienced and legally qualified to do so. Such evaluative and mitigation procedures should incorporate analytical and design methods representing current generally accepted professional practices.

Require proposals for all new developments to recognize the value of existing on-site natural vegetation and inventory, and preserve these resources to the maximum extent feasible, including the preservation of large trees. Every effort should be made to use native plants and to emulate the surrounding mountain landscape. Diversity in tree selection is a priority following the recent mountain pine beetle infestation.

Encourage new and existing developments to provide adequate measures to control any adverse effects to the water quality and groundwater resources of the region.

Goal*:** ***To preserve and foster the unique natural, physical, and man-made characteristics and cultural aspects of Dillon.

Policies: Establish criteria within the Chapter 16 Zoning to encourage new projects to be designed so they do not block views to prominent features such as Dillon Reservoir, the Robert's Peninsula, and other natural and man-made features.

Inspect and enforce landscape warranties to ensure that vegetation in new developments establishes itself.

Work with the Division of Wildlife to ensure that new developments minimize adverse impacts on fish and other wildlife habitat, breeding areas, and migration routes in and adjacent to Dillon.

Preserve shorelines and wildlife habitats from intensive development. If development occurs, developers should be encouraged to develop on land with minor constraints, and utilize clustering of development to minimize development impacts on sensitive areas.

Goal: ***To maintain, protect and improve the health of trees in Dillon.***

Policies: Endorse landscaping policies which reflect a native plant list to educate property owners on the species most likely to survive at this altitude and climate.

Require disease and pest resistant evergreens as well as deciduous options, such as Colorado Blue Spruce, Engelmann Spruce, Douglas Fir, and other species as recommended by the Town of Dillon Municipal Code, Section 7-5-140.

Create a tree education program, through the Town's Tree City USA program, via a pamphlet, or in the Dillon Website.

Air Quality:

Goal: ***To preserve and improve air quality within the community.***

Policies: Work with relevant governmental agencies to create programs to lessen impacts of wintertime road sanding and applications of magnesium chloride.

Work with relevant agencies to reduce the impacts of automobile and truck traffic within the Dillon community.

Encourage the utilization of mass transit as a method to reduce automobile trips within the community as a method to reduce air pollution.

Develop additional sidewalks and bicycle ways, and develop programs that encourage additional pedestrian and bicycle travel as a method to reduce air pollution.

Consider developing a community wide program that encourages the conversion of wood burning appliances to gas.

Water Quality:

Goal: ***To preserve community water sources, and the water quality of the community to enhance the livability of the Town.***

Policies: Improve the Town's landscaping regulations including the adoption of regulations that would reduce the amount of water utilized for the maintenance of landscaping.

Continue to enact watering restrictions in times of drought and encourage voluntary water reduction at all times.

Provide guidance to the community in selection of drought resistant xeriscape plant species.

Amend wetland regulations to relate the wetland definition to the Army Corps of Engineer standards and updates.

Work with Denver Water Board to preserve the areas near the lake to reduce erosion.

Work to reduce point source pollution that may enter the lake, or other water bodies, including Straight Creek.

Monitor areas of high mortality due to pine beetle infestation, and take steps to mitigate erosion following tree removal.

Wildlife:

Goal: ***The Town should evaluate potential impacts on wildlife, and work to provide adequate wildlife protection.***

Policies: Require new developments to take into consideration the existing species found within the immediate area, and take actions to mitigate any potential negative impacts to wildlife.

Investigate the creation of best management practices that would help preserve the existing wildlife species found within the community.

Preserve large wildlife corridors in the east Dillon area in order to protect the species found in this area.

Noise Pollution:

Goal: ***Work to reduce the impacts of noise on the Town's existing and future residents.***

Policies: Allow individual property owners to develop noise mitigation improvements such as berms and landscaping. The Town should consult with CDOT to best determine what measures are appropriate.

Work with future developers to maintain an adequate horizontal buffer between any proposed residential uses and Highway 6. This should include a combination of berms and landscaping to help mitigation any potential impacts.

Pursue sound barriers and other sound mitigating measures with CDOT.

Goal: ***Increase enforcement of noise pollution violations.***

Policies: Increase awareness by the trucking industry of the Jake-brake muffler requirements and Dillon's noise ordinance by communicating with local waste management and local trucking companies.

Goal: ***Preserve the quality of life for residents along the Tenderfoot Trail (Oro Grande and Corinthian Hill).***

Policies: Closely monitor and work with the US Forest should changes occur to allowed uses along the Oro Grande Trail.

Educate users about the allowed and prohibited areas for motorized uses through increased signage, speed limits, trailer requirements and right-of-way restrictions.

Aesthetics:

Goal: ***Additional gateways into Dillon should be developed to provide a sense of arrival, and to give Dillon a distinct identity. Gateways should include more than just signs; they should include landscaping, art, and decorative median designs as well.***

Policies: Develop a plan for public and private improvements that will act as a gateway statement for the community. This plan should include entry signage, a median design that is distinct to Dillon, a significant amount of landscaping, and coordinated transit facilities. These guidelines should be echoed throughout the Town, from the Town Center, to Dillon Ridge and to the Marina to present a unified aesthetic stating "This is Dillon". Continue using the Dillon Landmark Guidelines from May of 2004 to design key features in Town rights of way and at prominent gathering spaces such as the Dillon Amphitheater and Marina.

Goal: ***The Marina should be a high quality public facility for both boaters and non-boaters that sets an example for public facilities for the rest of the community. The marina is a critical focal point within the community, and should be improved to put the community's best foot forward.***

Policies: Evaluate the recommendations of the Marina Master Plan, and develop a priority implementation plan.

Budget for phased implementation of key priority Marina projects.

Goal: ***Develop a "Community Gathering Space" as a primary focal point of the community in close proximity to shops, cafés, park amenities, etc.***

Policies: Identify potential community gathering spaces and determine if one or more are appropriate for future development. These should include spaces of various sizes. Some of these spaces may be fairly small scale, provide resting areas (benches), areas for children, public art, historic and natural interpretations and limited community activities. Other spaces should be able to host large events such as the Farmer's market, art festival and other events with potentially large attendance.

Goal: ***Develop design guidelines addressing the opportunities to improve the aesthetics of the Town Center area.***

Policies: Design guidelines should address building facades, storefronts, facilitation of first floor pedestrian movement, encouragement of outdoor uses, art, balance and unity, and taking advantage of the Town's history and incorporating modern elements.

Develop design guidelines for street amenities, including benches, street lights, materials, and design character.

Light Pollution:

Goal: ***The Town should work to reduce the impacts of light pollution on the community.***

Policies: Continue to limit the installation of lights that have negative impacts on the community.

Develop strict regulations that will help reduce the impacts of future development and associated lighting on the community.

Work with property owners and CDOT to create a plan to reduce the impacts of light coming from activities along Highway 6. This may include the installation of berms, fencing, or landscaping, and where necessary modifications to existing light fixtures.

Develop Town public lighting standards that will light streets and sidewalks adequately, but will have little or no additional negative impacts on residents.

Goal: ***To preserve the quality of life at night for Dillon residents and adjacent communities.***

Policies: Research a program using "Dark Sky" lighting design criteria where appropriate, including full cut-off fixtures, a light metering program for enforcement, a homeowner education program about choosing lighting fixtures for their home, and stricter standards for fixture shielding.

Strengthen the Town's standards for outdoor lighting requirements. Adopt standards for light intensity, direction and resolve issues surrounding lighting that exceeds the Town standards after it is installed.

Wildfire:

Goal: ***The Town should continue to cooperate in wildfire preparation with other jurisdictions.***

Policies: Continue participation in the County Wildfire Council.

Assist homeowners in creating defensible space around homes.

Continue to remove and replace beetle kill trees throughout the Town.

Section 5: Urbanization

I. Introduction

Efficient land use in and adjacent to Dillon is a basic goal of the Comprehensive Plan. This means that land should be put to its best use; not only economically, but socially, physically, and aesthetically as well.

Efficient land use usually implies having clearly defined and stable areas for various land uses within the community. Dillon presently has clear and distinct patterns of land use and this Plan generally reinforces this structure through policy guidelines for future growth.

The purpose of this Section is to evaluate what parcels of land should be included within the Town's Comprehensive Plan boundary and to give a general overview of the policies related to the annexation of additional land into the Town.

II. Comprehensive Plan Boundary:

The Town Comprehensive Plan Boundary was created by evaluating various areas within a three-mile distance from the existing Dillon Town boundaries. This evaluation was used to determine which areas were suitable for annexation and possible future development or preservation under the control of the Town of Dillon, and which parcels should not be considered for annexation in the future.

In general, the Comprehensive Plan Boundary contains areas which:

- Have been determined to be necessary and suitable for future urban uses;
- Can be served today or in the future with adequate urban services and facilities;
- Are necessary in order to provide for the recreational and open space needs of the community;
- Are needed for the expansion of the urban area.

Land necessary for urban uses are those required for the proper build-out of the community, and those desired for adequate natural backdrops. Lands outside the Comprehensive Plan Boundary should be reserved for forestry, open space, and non-urban (rural) levels of development such as very large acreage home-sites where few urban services are required. The Town recognizes that there are many existing subdivisions and areas with urban levels of density and zoning that exist in the County outside of the Comprehensive Plan Boundary that are exceptions to this rule.

In determining the Town's Comprehensive Plan Boundary, consideration was given to the future needs of each major land use category including residential and commercial uses in sufficient quantities to satisfy future needs and to allow for choice between properties.

A major consideration in determining the Comprehensive Plan Boundary was also given to the community's ability to economically provide orderly public facilities and services including schools, parks, water and sewage facilities, storm drainage, fire and police protection, and other utilities and public services.

Steep slopes and the location of public lands including Forest Service land were also a major factor in the location of the boundary, as landscape characteristics create a logical boundary separating urban areas from rural.

The basic principles and factors used to determine the Comprehensive Plan Boundary were:

- Include all land located within the existing Town limits
- Include land served by Town water and sewer systems
- Include Town and other publicly owned developed parcels
- Include land that provides for future growth and has been determined to be necessary and suitable for urban uses
- Include land that can be accessed from existing and future Town streets and developed in a manner that generally meets Town standards
- Include those areas which allow for a mixture of housing types and expansion of the permanent population
- Include enough developable land so all desired uses can be accommodated without creating a limited market
- Include those areas which help strengthen the economy of the community
- Establish the boundary in a logical manner, utilizing property lines where possible, and natural features where the natural features dominate

- Do not include US Forest Service land that should be preserved and maintained for recreation, wildlife habitat, watershed protection, and as a natural backdrop to the community.

Utilizing the goals, objectives, and principles outlined above, the Town identified general areas adjacent to Dillon that should be included within the Town's Comprehensive Plan Boundary. Inclusion within the Town's Comprehensive Plan Boundary does not guarantee these areas will ever be annexed, nor does it mean other areas not now included within the Plan will not be included in the Plan in the future. Including these areas within the Plan represents the Town's belief that additional land is needed for future development and recreational needs, and should be included within the Town's municipal boundaries. The areas included with the Comprehensive Plan Boundary that are not now part of the Town include:

Area 1: Denver Water Board property between Tenderfoot Addition and County Road 51.
Area 2: Forest Service parcels adjacent to Corinthian Hill Subdivision, below the Oro Grande Trail.
Area 3: Miscellaneous parcels near the Dillon water treatment plant.

While these areas have been included in the Town's Comprehensive Plan Boundary, others were left out for various reasons. The reason a parcel was left out of the Boundary may have included:

- distance from Town
- the inability of the Town to provide adequate public facilities and services
- natural constraints
- desire to preserve the area in a natural or rural state, or

Areas near Dillon that were left out of the Boundary include Dillon Valley and Piney Acres to the north, Summerwood, Summit County Open Space and Summit Cove to the east, most Forest Service parcels, and lands that are adjacent to the Town of Silverthorne and more logically incorporated into Silverthorne rather than into Dillon.

Because the areas included in the Town's Comprehensive Plan Boundary have different characteristics, one land use designation or one general policy addressing annexations and future development is not adequate. The following section provides evaluation of these areas, recommendations for development and proper zoning for each upon annexation, and establishes specific annexation policies to guide future Town decisions.

III. Three Mile Plan

While not included in the Comprehensive Plan, the Town has adopted a Three Mile Plan which establishes goals and policies for future urban development and annexation. The Three Mile Plan also establishes the criteria to be used for the creation of the Town's Comprehensive Plan Boundary, and is adopted as a part of the Comprehensive Plan through this reference. Exhibits 1and 2 indicate the Comprehensive Plan Boundary and those areas that could be considered appropriate for annexation. Exhibit 1 indicates the properties immediate to the Town boundaries, while Exhibit 2 indicates the three-mile boundary and potential properties for annexation within the Three Mile Plan.

IV. Annexations

The adopted 2015 Three Mile Plan should be referred to for detailed information regarding annexations to the Town.

V. Goals and Policies

Urbanization:

Goals: ***To provide for an orderly and efficient transition from rural to urban land use.***

Policies: Provide for the growth and development of the community at a rate that will not overtax the community's ability to provide facilities and services, now or in the future.

Do not provide urban services outside of the corporate limits of the Town in those instances where it may lead to urban sprawl, and where it will not support new urban level development within the Comprehensive Plan boundary prior to annexation.

Comprehensive Plan Boundary:

Goal: ***To maintain a Comprehensive Plan Boundary that represents the land within the Dillon area which should be developed for urban uses in the future and become part of the Town.***

Policies: Adopt or reaffirm the Comprehensive Plan Boundary at least once a year. The Comprehensive Plan Boundary shall correspond to the Three Mile Plan boundary required by state statutes, and identify potential urban lands from rural lands.

Base all amendments to the Comprehensive Plan Boundary on the same or similar criteria and standards utilized to establish the existing Boundary. Any annexation requests outside the Boundary shall be preceded by a Comprehensive Plan Boundary amendment.

Annexations:

Goal: ***Annexation should be utilized as a growth control tool, as well as a tool to sustain the economy and needs of the Town. Annexations should show a need for additional land in a specific land use category, and adequate services and facilities can be provided by the petitioner, or when annexation is needed in order to protect various community assets.***

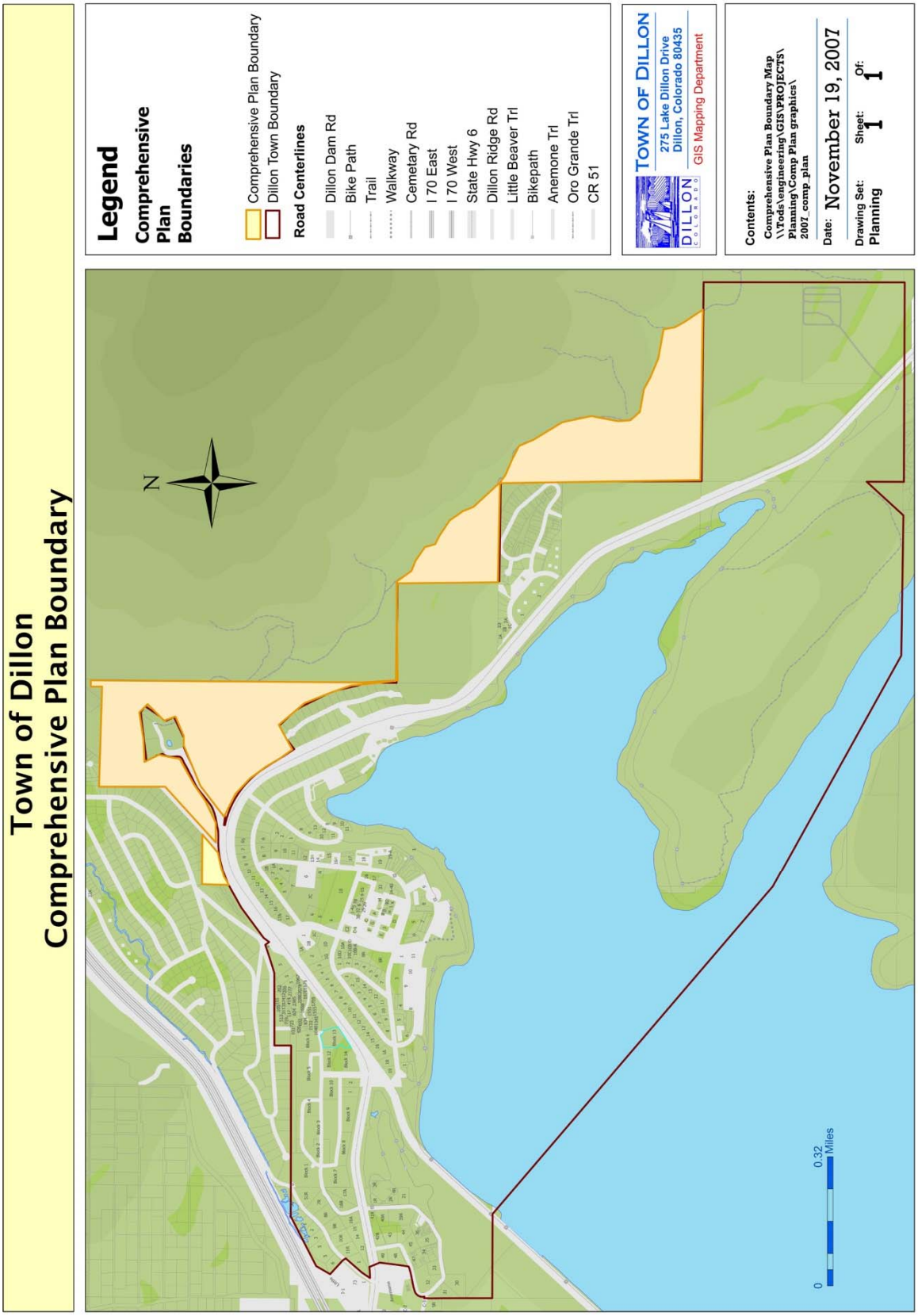
Policies: Annex land only on the basis of findings that support the need for additional developable land in order to maintain an orderly growth pattern within the Town's service capabilities.

Require preliminary development proposals to accompany annexation requests to ensure compatibility with the Town's Comprehensive Plan goals and policies, and to ensure that projects can be completed within a reasonable time period unless otherwise specified by the Town.

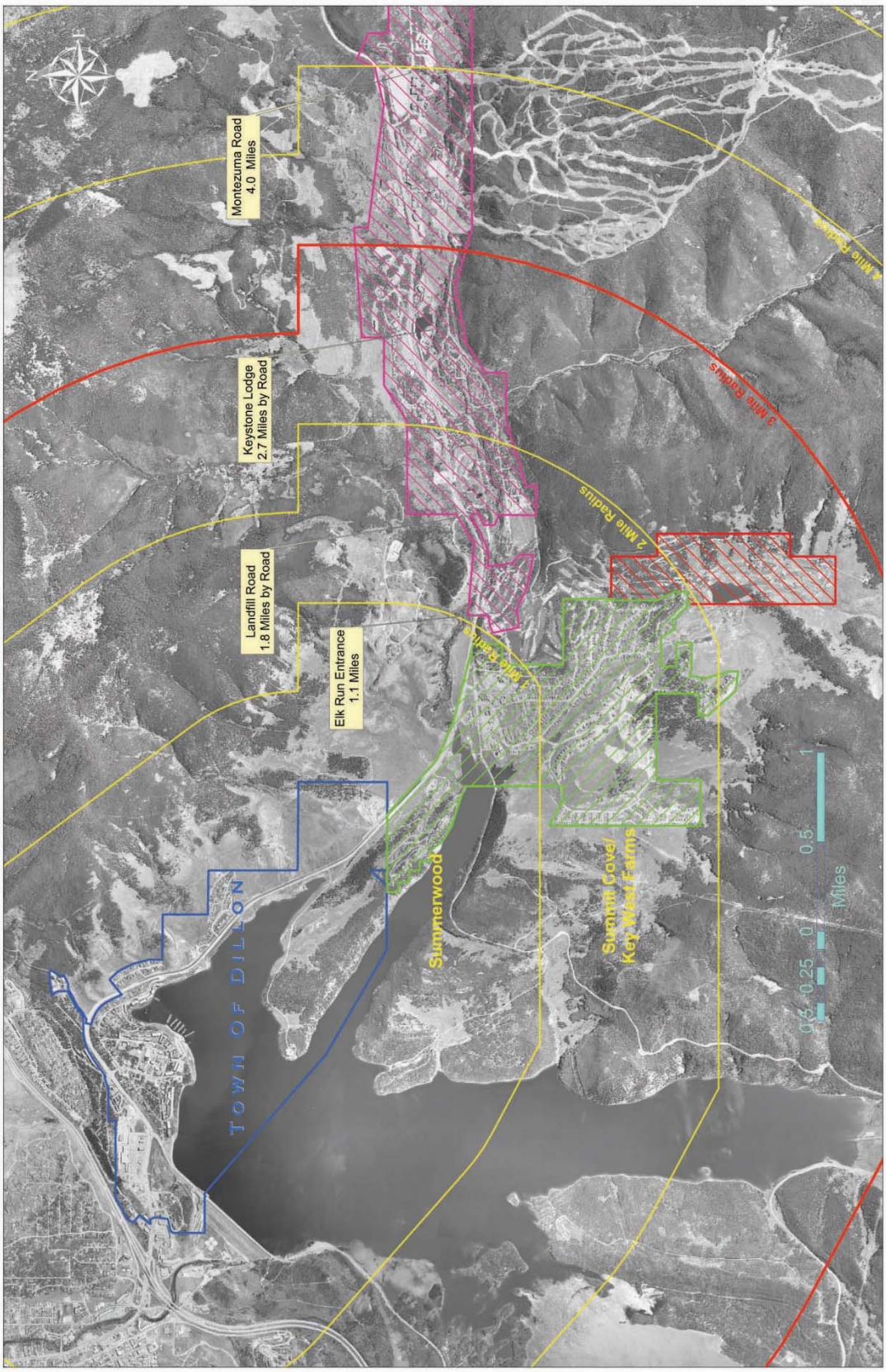
Do not annex those areas unwilling to provide needed facilities or services, or unwilling to upgrade existing substandard facilities prior to or upon annexation.

Annex undeveloped land based on the following general criteria:

- There is a need for additional developable land within the Town.
- The Town and other service entities have the physical and economic capabilities and capacity to provide urban level services to the development within a reasonable period of time.
- The developer of the site proposed to be annexed has the ability to develop the site within a reasonable period of time.
- There will be positive economic and/or social benefits to the community.



- Exhibit 1: Comprehensive Plan Boundary



- Exhibit 2: Three Mile Plan Map

Section 6: Land Use Element

I. Introduction

The primary purpose of this section is to develop appropriate land use patterns and densities throughout the Comprehensive Plan Boundary through the designation of land use zoning districts intended to implement the Town's basic goals.

In determining the proper utilization of land within the Comprehensive Plan Boundary, the Town conducted an analysis of the land's suitability for development. Identifying land suitable for development and establishing densities for zoning districts was based on various factors including existing land use patterns, availability of services, distance from downtown, slope, natural features, and various goals of the community. Recommendations from the Leland Study, the Parks and Recreation Master Plan, and community input during the October 2016 community housing work session were also used to identify appropriate land uses.

Several types of land use were identified and excluded from the plan. These areas are considered important to preserve at rural intensities, those representing community assets, and those having severe limitation for development as follows:

- Areas with steep slopes, defined as those above 20%;
- The Dillon Nature Preserve.
- Wetlands

Once these areas were identified, the Town was able to establish land use recommendations and densities based on the goals and objectives of the community. The uses and densities established in the Comprehensive Plan are based upon the criteria established below and address various natural, manmade and social issues.

The general criteria which guided the selection of lands for future urban uses, their locations, and densities were:

- Encourage the strengthening of the Dillon Town Center as a community focal point.
- Continuing to develop the commercial area adjacent to Highway 6 from the Town of Silverthorne to Dillon Dam Road into a viable commercial center.
- Densities and intensities of development should occur in a logical pattern with higher density occurring near the Town Center and/or adjacent to Highway 6 and existing services and facilities. Lower intensity development should radiate out towards the edges of the Comprehensive Plan Boundary, with the exception that innovative residential land use approaches should be considered throughout the Plan area in order to increase housing availability and full time residents in the Town as well as reduce the cost of providing urban facilities and services while preserving the critical natural characteristics of the community.
- Locate retail, service commercial and higher density residential projects near existing and proposed transportation systems.
- Plan for an adequate supply of land for all types of future land uses identified in the Plan and as detailed in the Three-Mile Plan. The supply of land should provide for a mix of land use types and strive to provide a balance between land uses.
- Where applicable, consideration was given to existing zoning designations within developed subdivisions.
- Protect the Town's natural features and take into consideration environmental constraints such as topography, geology, poor soils, water resources, designated wetlands and The Fen, critical natural vegetation, fish and wildlife resources, and the protection of other environmental assets.
- Protect critical open spaces and their views to mountain ranges and other natural features.
- Locate land uses in relationship to the availability of existing and proposed community facilities, utilities and services.

II. Land Use Guidelines

The Town strives to integrate its multiple master plans into a unified vision. Through this process several medium and high priority goals were identified. The Town should continue to develop implementation plans and budget to achieve these goals over the next three to five years. The priority projects are identified in the following chart:

High Priority Uses:

Suggested Facility/Service	Suggested Location(s)	Notes
Update the Amphitheatre Facilities	Marina Park	Improve Restrooms, ADA Access, Concessions, and Stage Building.
Implement the Town Park Master Plan	Town Park	New play structures, bathrooms, pavilion, multi-use sports field, improved racquet sport courts, create new Town Market space, and improve parking and pedestrian circulation.
Expanded Marina Facilities as directed by the Marina Master Plan possibly including the following: • Restaurant • Improved facilities • Parking improvements • Landscaping	Dillon Marina	Expand opportunities for year round enjoyment of the Marina. The Town has started implementing these plans.
Community Entry Statements	East entrance Dillon Dam Road	Not limited to signage, but landscaping and other design features as well. Improvements create a unique strong Dillon character statement.
Affordable Housing • smaller single-family • similar to the Breckenridge Wellington Neighborhood • high density workforce & attainable housing in multi-family context • high density workforce & attainable housing in conjunction with mixed-use developments • use funds from the affordable housing impact fee to develop workforce/attainable housing with a focus on Town employee housing	County Wide Water Treatment Plant Area Denver Water parcels Town owned and privately owned land near Lookout Ridge Town Center Mixed-use zone Core Area zone	Balanced to meet the needs of the entire community, while promoting year-round occupancy (recommended by the Leland Study)
Core Area Redevelopment / Infill • Residential and Commercial with a focus on a full time residential populace along with service oriented and retail commercial with new development creating a sense of place.	Core Area	-Determine Town owned land that might be incorporated into a redevelopment or infill project. Partner with land owners and developers. -Develop Core Area Design Guidelines to unify the vision of the Town through more improved and consistent architectural themes.

Four general land use types exist within Dillon that the Town will continue to promote. They are as follows:

***Residential*.** The Town, through its comprehensive planning process, aims to achieve diversity in housing types and densities to provide additional housing opportunities to attract more Dillon year-round residents while still encouraging second homebuyers. Through the Comprehensive Plan, the municipal zoning ordinance, and capital improvement program, it is hoped that a diversity of housing types can be achieved, with a focus on increasing the populace of full time residents.

Currently, the number of parcels available for future high-density residential development within Dillon's Comprehensive Plan Boundary are limited. Underutilized and appropriately located Mixed-use zoned parcels and

portions of the Core Area should also encourage high-density housing as a component of these neighborhoods and future developments. Outward from the core area and mixed-use areas of the community, gross residential densities should generally decrease in intensity.

A. Development in the vicinity of Corinthian Hill Subdivision: Development of the area north of Highway 6 just east of Town should be accomplished in a manner that encourages future development to be clustered. There are a number of critical community goals that can only be achieved if the allowed density in this area is clustered onto lands close to the existing Corinthian Hill Subdivision rather than spread out over the entire district. The goals that can better be achieved with clustering include:

1. Protection of The Fen (a critical wetland) that exists between the Corinthian Hill Subdivision and the Dillon Cemetery. This critical natural feature should be preserved and protected through the use of adequate buffering from any future development. Specific setback requirements should be developed by the Town based on the natural characteristics of the site, but generally the buffer between The Fen and any disturbance should be 150 feet in width at a minimum.
2. Protecting wildlife habitat and movement corridors. Clustering development and leaving larger connected open space provides wildlife with a greater chance for survival than does spreading the development density over the entire site and fragmenting open space.
3. Providing larger uninterrupted open spaces to help protect wildlife and provide a clear break between communities.
4. Maintaining a rural character adjacent to Highway 6. This can be accomplished through the use of a buffer adjacent to Highway 6, rather than allowing housing to be placed too close to the highway right of way. A buffer of between 100 and 200 feet should be considered depending upon the specific characteristics of the site, such as topography, vegetation, and the relationship of the site in elevation to the existing highway. Property which sits above the elevation of the highway should have greater setbacks to development than those that sit below the elevation of the highway.

Because the potential exists for development to occur within critical visual corridors and/or on important natural resources, development within the Highway 6 area on the eastern side of Town should be carefully evaluated, and only allowed when in general compliance with strict standards.

The Leland Study, the Dillon Economic Revitalization Advisory Committee, the Dillon Town Center Vision and Recommendations Document, and the recent community housing forum endorsed planning for residential uses at densities similar to the surrounding Oro Grande and Corinthian Hill developments on Parcels C & D. The northeast sections of both these parcels feature steep slopes which are not suitable for development. Also, the better portion of Parcel D contains The Fen wetlands, and is not suitable for development, and 150 foot setbacks should be required to buffer development from The Fen.

There were a number of goals that should be achieved if the property were to be developed including:

- Development should provide a green belt along Highway 6 in a manner that provides a noise buffer for the residents and maintains a continuation of the existing rural character along the highway. Retention of a 100-200 foot undeveloped buffer width should be the goal depending upon the natural characteristics of the site.
- Development should work with the existing contours of the land and not be developed in a manner that would require extensive cut or fill slopes.
- Development should be concentrated on those portions of the site that are under 20 percent in slope, and most importantly clustered to maintain the critical natural features of the site.
- Development should not be placed in a manner that would significantly impact the existing residential uses in the adjacent subdivisions.
- Access should be developed in a location that creates the least adverse impact for the existing roadway system. If possible a grade separated ingress and egress should be utilized to allow for free flow onto Highway 6, and to allow for pedestrian and bicycle access to the existing Summit County recreation path adjacent to the lake.
- Development should not encroach on The Fen in a manner that would have negative impacts on The Fen.
- Development should not be allowed east of The Fen (near the Dillon Cemetery), unless the proposed use is for public purposes and maintains a feeling of open space.

B. Infill and Redevelopment in the Mixed-use and Core Area Zoning Districts: Infill and redevelopment projects should provide for an increase in the full time residential population while maintaining key commercial locations for retail, restaurants, entertainment venues, and service oriented businesses.

1. Residential uses should be limited to above the first floor in areas of key retail and commercial activity, such as frontage along Lake Dillon Drive. Stand-alone residential projects should be considered in the Mixed-use zoning district where the parcels do not occupy key retail frontage areas, or are located on the outer portion of a larger development of combined lots such as a PUD and are adjacent to other such residential use. Residential uses in the Core Area should be developed through the PUD process, and first floor residential uses should go through Conditional Use Permit review.
2. New projects should satisfy the general criteria of the Architectural Guidelines of the Town.
3. Renovations of existing buildings in the Core Area should strive to incorporate some of the criteria developed for the Architectural Guideline of the town.

C. Denver Water Land near the Dillon Nature Preserve: The land held by the Denver Water Board on the southern side of Highway 6, between the Dillon Nature Preserve and the Summerwood Subdivision, has been zoned Residential Low. In addition, this site has been allocated a density of 14 units through an annexation agreement with the Town. This parcel and its future are significant as it is immediately adjacent to the Preserve. Recent discussions with Denver Water indicate there is no intent to develop this parcel at this time. It is in the Town's best interest that this parcel remains undeveloped given its close proximity to the Dillon Nature Preserve.

D. Denver Water Parcels A & B: At the current time, Denver Water does not appear interested in dispensing of any land, especially these parcels. The Caretakers facility on Parcel B remains in Denver Water's long term visioning for the parcel. Parcel A is being reserved for future potential water projects. Should Denver Water desire to sell off portions of these parcels, then they should be developed in densities similar to the Corinthian Hill and Tenderfoot Addition Subdivisions, with consideration of clustering at higher densities to provide for sensitive site

Commercial. Future commercial uses should strive to continue to enhance the economic viability of the Dillon Town Center and that of the developed commercial center along Highway 6 between the Town of Silverthorne and the vicinity of Dillon Dam Road. Where commercial uses abut existing or future residential uses or other incompatible uses, the commercial project should be designed in a manner to mitigate any adverse impacts, including those related to aesthetics, lighting, transportation, and noise.

Town Center / Core Area (CA) zone. *This area of Town is defined as the lots adjacent to Lake Dillon Drive and the lots located within Block A of the New Town of Dillon Subdivision.* The Dillon Town Center was improved by the community in the early to mid-1990's through extensive streetscape and street improvements. The Town continues to build on these improvements and encourage private investment in the Town Center that will strengthen the economic climate in downtown Dillon. The Leland Study and the Dillon Town Center Vision and Direction report both recommended the formation of an Urban Renewal Authority. The Dillon Urban Renewal Authority formed in 2009. The formation of an Urban Renewal Area encompassing the Town Center provides funding mechanisms for incentives to promote redevelopment of outdated and underused commercial spaces, as well as provide an opportunity to develop high-density housing for year round residents as a component of a mixed-use building or as a stand-alone use when the project is not located on the major retail street Right-of-Ways. The key to revitalization will be to bring more people for longer periods of time to the Town Center to dine, shop, and enjoy public spaces and spectacular views. Future development or redevelopment should focus on creating a sense of place to attract more year-round residents.

The West Entry Monument was developed near the Town line between Dillon and Silverthorne. This entry monument complements the entry monument at Lake Dillon Drive. Further efforts should continue to use design elements from

these projects to enhance the character of Dillon to provide continuity between the Town Center and the Highway 6 commercial corridor.

Recreation, Open Space, and Public Land. Recreational uses should be provided throughout the Comprehensive Plan area in locations that are compatible with existing and proposed uses. The Town strives to provide a selection of year-round recreational opportunities for citizens and visitors alike. Due to the resort nature of the Town and its reliance on visitors and recreational activities for its economic vitality, it is critical for the community to provide and maintain exceptional year-round recreational facilities and services.

Open space provides for a variety of benefits including protecting ecologically sensitive areas, maintaining a mountain, lake side Town feeling, acting as a buffer between various incompatible land uses, providing a backdrop to urban development, creating a physical separation between urban and rural land uses, and a separation between communities.

Forest Service parcels east of the Oro Grande Ditch that help form the backdrop to the community should be preserved in their existing state and should not be sold for development. The Town of Dillon Three Mile Plan contemplates some Forest Service land having residential development potential. Such development should be considered so long as a focus on maintaining ample open space, natural buffers, and protection of the natural environment. The Town should also encourage the retention of land with over twenty (20) percent slopes for open space, and any development allowed on steep slopes should be accomplished in a manner where open space and significant natural features are not destroyed.

The Town acquired approximately 173 acres on the peninsula near Robert's Tunnel through a negotiation with Denver Water. This area is protected as the Dillon Nature Preserve, and limited to passive recreational uses only, such as hiking, picnicking and the enjoyment of nature. The Town continues to support pedestrian and passive recreational uses in the Dillon Nature Preserve, and should continue with trail maintenance, parking area improvements, and improved navigation & mapping support.

Across the highway near the Dillon Cemetery open spaces exist on the undeveloped Denver Water Board Property. Within this property are a number of natural characteristics that should be preserved including an extensive wetland community, steep hillsides and a critical backdrop to the community. Recent forest fuels reduction projects and the creation of the Dillon Disc Golf course in the area enhance the open space.

III. Residential / Mixed Use Zoning Classifications

Land appropriate for residential use within the Comprehensive Plan has been placed in various land use designations indicated below. While it is difficult to predict all possibilities related to the future use of these parcels, the various land use designations provided here are intended to give the Town, its citizens, and future developers guidance concerning possible development. Exhibit 3 reflects the zoning classifications within the Dillon Zoning Map.

Residential Estate (RE). This land use classification is intended to primarily indicate areas that are suitable for large lot, estate single-family developments, or clustered single-family development, at a density that does not exceed one unit per acre of net land area. Development within any area designated RE should take place in a manner that is compatible with the natural characteristics of the site. Where the presence of critical natural resources do not allow development of the entire site, such as mature tree stands, steep slopes, wetlands, or drainage ways, the property should be developed in a manner where the units are clustered into the most appropriate areas of the site. This will allow the full development of the allowed density, while preserving critical natural resources. To distinguish which parcel is appropriate for which type of development (cluster vs. large lot), this land use classification should be separated into RE and RE-C, with the "C" delineating clustered development.

Residential Low (RL). This classification is intended to include residential development of a density up to six (6) dwelling units per acre. It does not mean every parcel will be allowed six units per acre, but rather that the density within a defined area will not exceed six units per acre (net). In addition to residential uses, accessory units, and limited public and quasi-public uses would be permitted within this zone. Secondary units are allowed in this category subject to the conditions established in the Dillon Municipal Code, provided the overall density does not exceed six units per acre. Limited other uses such as churches, child care centers and group homes may be considered under conditional uses.

Residential Medium (RM)I. This classification includes residential developments of single-family or two-family dwellings at a rate of six (6) to fourteen (14) dwelling units per acre. Accessory structures and uses associated with the residential uses are also permitted, so long as they are in keeping with the residential character of the zone. Density would be allowed in these areas in a manner that recognizes the physical characteristics of the site and the fact that different

types and sizes of units have different impacts on the community. Multi-family units of up to eight units are allowed in this zone, only upon approval of a Conditional Use Permit. Other uses permitted only by a Conditional Use Permit include: boarding houses, child care facilities, hotels, churches, schools, utility substations, governmental structures and uses, planned unit developments, and parking and storage uses accessory to the residential use on an adjoining lot.

Residential High (RH). In this classification two-family and multi-family residential developments of fifteen (15) to sixty-five (65) dwelling units per acre would be allowed. Accessory structures and uses associated with the residential uses are also permitted, so long as they are in keeping with the residential character of the zone. Other uses permitted only by a Conditional Use Permit include: churches, schools, hotels, restaurants, group homes, governmental structures and uses, child care facilities, planned unit developments, and parking and storage uses accessory to the residential use on an adjoining lot.

Mixed Use (MU) / Core Area (CA). This category is intended to allow the development of offices, retail, hotels, restaurants and entertainment facilities as stand-alone uses or in combination with each other. Additionally, limited residential housing developed with the densities in the medium or high density residential zones may be appropriate when the current housing needs of the community are being addressed. The Town Council and community may determine that stand-alone residential use may not be appropriate on all lots if they occupy key street frontage, to preserve sales tax generation to offset the impacts of growth.

IV. Dillon Marina

Previous Comprehensive Plans indicated a need to master plan the marina. The Town has completed a Marina Masterplan, which may be amended from time to time, and continues to implement proposed components of the Marina Master Plan as funding is available. Development at the Marina should be consistent with other master plans for the Town of Dillon and be strongly tied to the Mountain Lakestyle brand and architectural guidelines of the Town.

V. Goals and Policies

Land Use:

Goal: ***To establish a pattern of future land uses which will promote the highest degree of health, safety, efficiency and well-being for all segments of the community, and make the most efficient use of land, community facilities, services and natural resources.***

Policies:

Require densities and intensities of development to occur in a logical pattern with high density occurring near the Core Area zoning district and existing services and facilities, and lower density radiating toward the edges of the Comprehensive Plan area. A major exception to this policy is that the Town encourages the use of innovative approaches to land use and development which promote basic Town goals, such as cluster development near Corinthian Hill rather than allowing it to be spread out over the entire site and creating urban sprawl.

Concentrate multi-family residential development near transportation networks, and adjacent to the existing Town Center to take advantage of existing community facilities and services, and to concentrate the majority of the residents near areas where community activities are likely to occur.

Allow residential uses in commercial districts in conjunction with commercial uses to encourage a mixture of uses and the continued viability of the downtown area. This is especially appropriate in the Town Center, and to a lesser extent in other commercial areas of the community, where commercial uses should dominate. Residential uses should be secondary in nature. Residential uses are allowed in a commercial project if they are not the primary use and do not occupy the prime location or facades.

Limit commercial activity along Highway 6 to an area running from the Summit Place Shopping Center to Lake Dillon Drive, with a clear distinction of where this commercial area begins should be created through the use of community gateways and signs.

Encourage recreational uses throughout the Comprehensive Plan area in conjunction with residential developments based on an evaluation of the proposed residential use in relationship to the anticipated needs created by the development.

Provide open space throughout the community in order to protect features that are unique to Dillon. Open space should be provided along Dillon Reservoir and the hillsides that frame the existing community. Forest Service parcels that help form the backdrop of the community should be preserved at this time in their existing state.

Encourage open space along the north side of Highway 6, east of Town, and should be the primary use from the large fen east of Corinthian Hill east to the Comprehensive Plan Boundary. Development east of The Fen should be limited to public and recreational uses that maintain a rural or open space feeling.

Strive to provide a system of public and private open space that ties all community parks and areas of community activity together.

Goal: ***To improve the Dillon Town Center, and create a focal point for the community that contains civic, commercial, cultural, entertainment, and recreational activities that can be utilized throughout the year.***

Policies:

Encourage future commercial development to improve the Dillon Town Center capable of providing services and amenities for the community, including possible wholesale trade uses.

Analyze potential uses for the Dillon Town Center and strive to keep it as a community focal point.

Create an incentive program to encourage the redevelopment of existing buildings that no longer meet Town design standards, nor provide for uses that encourage additional

commercial activity within the Town Center. This new incentive program should be matched with regulations (such as vertical zoning) to create the desired hardscapes and tenant mix for the Town Center.

Projects should improve the overall appearance and create a sense of pride in the community, including community gathering spaces, community amenities, and align with Dillon's Mountain Lifestyle identity. Projects should create a sense of place welcoming residents and visitors alike.

Goal: ***To review the land use plan for the east Dillon area in keeping with the recommendations of the Dillon Comprehensive Plan.***

Policies: Base the plan on the following concepts:

- Evaluate the acquisition of the area for Town use.
- Create new residential standards for the area east of the natural ridgeline on Highway 6. Should development occur, densities should complement the density of the existing neighborhoods in the area.
- Protect The Fen.
- Provide for wildlife protection.
- Provide adequate open space buffer adjacent to Highway 6.
- Keep private development (if it occurs) west of the wetlands, and/or the ridge west of the wetlands, and concentrate development near existing development rather than allowing it to be spread over the entire site.
- Allow public uses east of The Fen, next to the cemetery.
- Do not encourage additional multi-family housing in the area.
- Do not allow any commercial or office developments within the area.

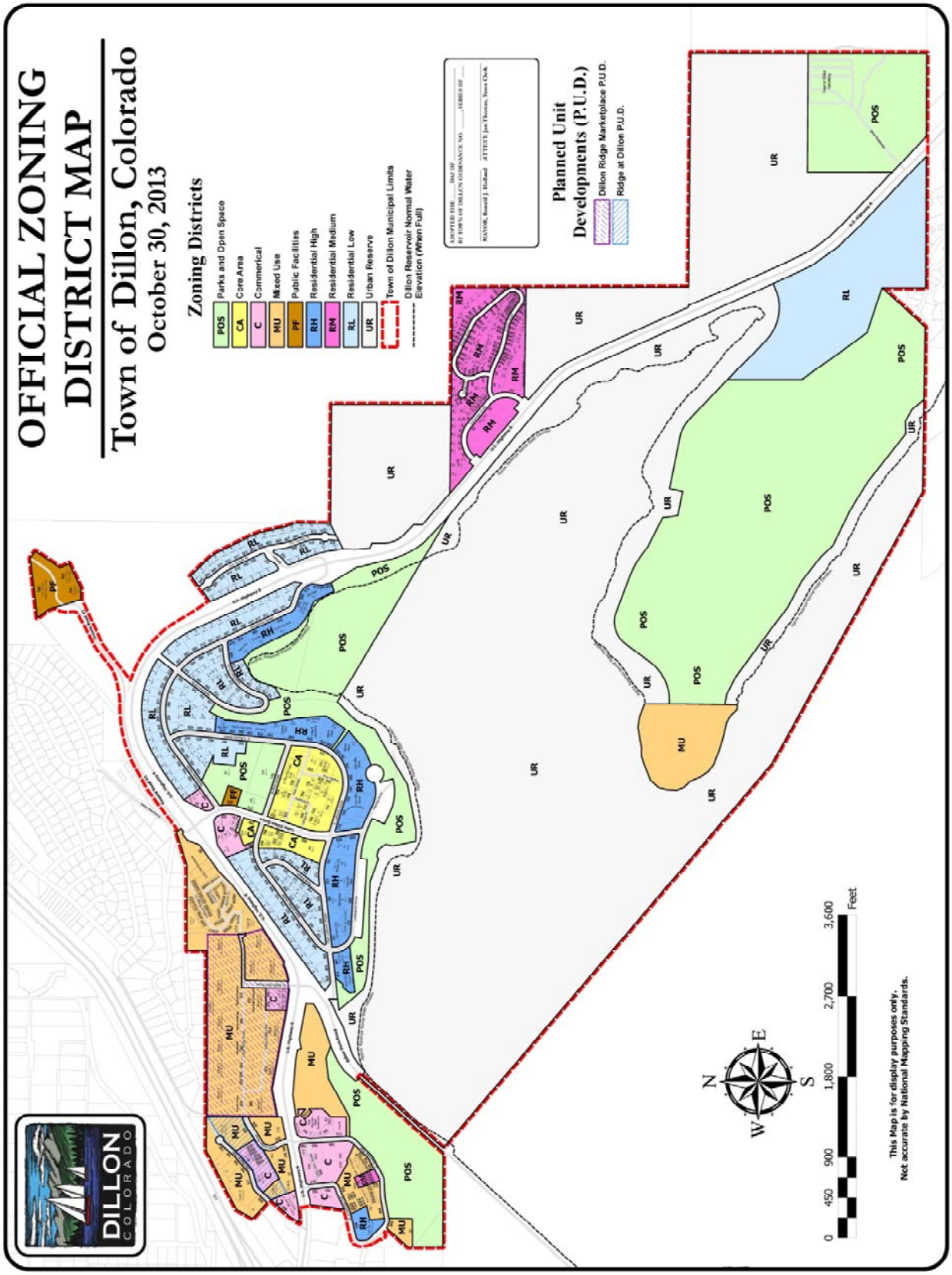
Goal: ***Develop and implement a Marina Master Plan Policy and Asset Management Plan.***

Policies: Review and adopt recommendations from the Marina Master Plan.

Prioritize and budget marina improvements in a phased timeline.

Promote marina improvements which strengthen the connection between the Town Center and the Marina to encourage an exchange of visitors.

Exhibit 3: Town Zoning Map



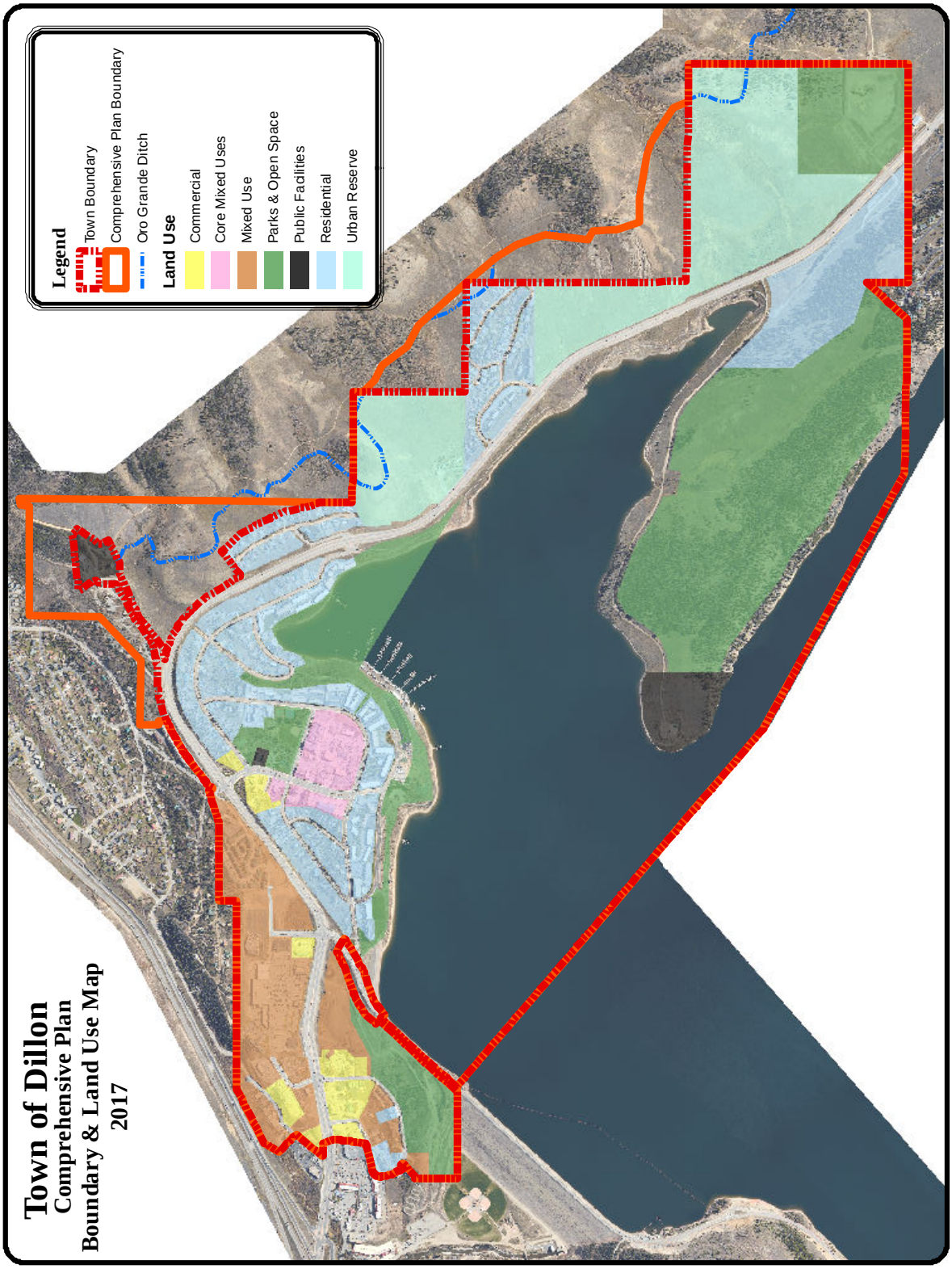


Exhibit 4: Land Use Map

Section 7: Circulation

I. Introduction

The recent master plans and evaluations of the Town all identified a need to strengthen the connections within the Town Center. This includes transportation modes of all kinds, including vehicular, pedestrian, bicycle and mass transit. The Town must also ensure universal accessibility to amenities. The primary backbone of circulation in the Town is US Highway 6. The Town should look to improvements to facilitate better and safer access at primary intersections such as Lake Dillon Drive and Highway 6, La Bonte and Lake Dillon Drive, and West La Bonte and Dillon Dam Road. Specific areas that might benefit from improvement projects are discussed in this section..

II. Street System.

The street system in Dillon is dominated by Highway 6, which runs generally in an east-west direction through Town. All other streets within Dillon, with a few exceptions, lead back to Highway 6 and utilize the highway as the primary means for vehicular movement in and through the community. While Highway 6 establishes the major transportation feature within the community, other important streets exist that provide linkages to the residential and commercial neighborhoods; these include the Dillon Dam Road, Lake Dillon Drive, Evergreen Street, Anemone Trail, Tenderfoot Street, Little Beaver Trail, and Corinthian Circle, all of which intersect with Highway 6 at some point.

Improvement potentials that have been identified in the Comprehensive planning process related to the Town's street system include:

- The Evergreen Road intersection and road system within one block of Highway 6 is very confusing.
- Tenderfoot Street presents a safety concern, from the steep hill down to Gold Run Circle and on to the end at Highway 6, both for pedestrians and bikers. The recreation path system improvements greatly improved the safety for pedestrian and cyclists at the end of Tenderfoot Street near Highway 6, but are only effective if properly utilized by the users.
- Highway 6, where speeds create safety problems and add to noise pollution for the residences along the highway.
- Pedestrian paths between the Dillon Ridge Marketplace and the Town Center.

III. Street Classifications.

Streets throughout the community have been placed in four street classifications; major arterial, minor arterial, collector and local streets.

Major Arterials. A major arterial is a roadway intended to provide access through a community with high levels of volume. The emphasis is to preserve the ability of the road to carry high volumes of traffic efficiently. Major arterials for this type of street include Highway 6, and the Dillon Dam Road.

Minor Arterials. Minor arterials take vehicular traffic to and from major arterials to lesser streets and activity areas. Access onto minor arterials should be limited to provide a smooth traffic flow, however, some access to individual properties may be allowed. Internal access should be encouraged and be served by common access drives. Minor arterials include Lake Dillon Drive and Little Beaver Trail. These are two-lane paved roads.

Collectors. A collector functions by transferring traffic to and from local streets to arterials. Collectors also serve adjacent properties, however, where possible access drives should be combined. La Bonte, Tenderfoot, and a portion of Buffalo Street are classified as collectors.

Local Streets. The remaining streets within the community are classified as local streets, and serve the adjacent properties by providing access from individual parcels to the rest of the roadway system.

Improvements. The Town needs to continue to refine its street standards and requirements, and improve the future street system in order to accommodate future growth and correct any existing problems. These improvements should include:

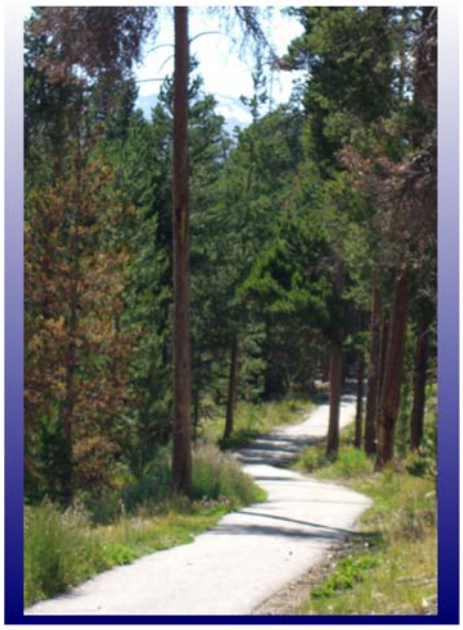
- Work with the State Highway Department to determine safe speeds for Highway 6, that will allow safer access onto and off of the highway, and other improvements (fencing, landscaping, earthen berms) that can help reduce noise pollution from vehicles traveling on the road.

- Work to improve the Evergreen street system north of Highway 6.
- Investigate methods to reduce speeds along Tenderfoot, near Gold Run Circle, and methods to reduce the number of times vehicles fail to stop at the intersection.

IV. Bicycle & Pedestrian System.

The Town's hard surface trail system includes sections of the Summit County Pedestrian and Bike path that ties all areas of the County together. This system accesses Dillon from Silverthorne on a path that runs along Highway 6, from Frisco on a path that runs along the Dam Road, and from Keystone on a path that runs along the lake. A path along the lakefront between Point Dillon and the Dillon Amphitheatre is designated a pedestrian path only, while a multi-use pedestrian and bike path guides users from the western to eastern ends of Town on the trail through Marina Park, down to the trail along Gold Run Circle, and then down the trail along Tenderfoot Street to the lakeside trail heading to Keystone.

The residential neighborhoods north of Highway 6, east of downtown Dillon (Tenderfoot Addition and Corinthian Hill) have no safe ways to cross Highway 6 in order to access the bicycle system along the lake.



The Town's system of sidewalks is also in need of various improvements. There are very few sidewalks that radiate outward from the Town Center into the adjacent residential neighborhoods, requiring people to walk in the street, usually in poorly lit situations. It is difficult to cross Highway 6 at Lake Dillon Drive, where pedestrian paths are not clearly defined on the Evergreen Road side, and in the winter it is somewhat difficult to access the signal activation system for pedestrian movements. One additional pedestrian issue is found along the Dillon Market Place, where pedestrian access into the shopping center from the west is difficult. Both the Parks and Recreation Master Plan and the Leland study noted the importance of improving connections within the Town as well as between the Town Center and the Marina.

Improvements. The Town has made great strides in improving its bicycle and pedestrian systems over time. Recently a new recreation path segment was completed along Tenderfoot Street and lower Gold Run Circle in 2010. In the fall of 2012 a recreation path segment between the Point Dillon Lawn Area and the existing path was constructed. Since completed, the Town has a complete path system from Silverthorne on the west to the Summerwood Subdivision on the east. An additional spur which crosses the Dillon Dam is also in place allowing path users access all the way to Frisco.

Improvements to the bicycle/pedestrian system should generally include extensions to the system into and through new commercial and residential projects. Pedestrian and multi-use paths should be improved and provided as an alternative to dependence on the use of automobiles. These paths should also provide an environment that is safe, entertaining and functional, as well as being visually pleasing. All routes within Town should be planned as a coordinated circulation system, just as streets are engineered for automobiles. Pedestrian-ways, bikeways, and sidewalks should be designed in response to the anticipated level of use and to respond to the surrounding conditions. It is critical that the bicycle and pedestrian system tie all public parks and community activity centers together with a system of open space to encourage utilization of the trails system. The system should tie neighborhoods together and meet the physical needs of all segments of the community.

Specific improvements that should be considered include the following:

- Provide clear direction, indicating how to proceed to the next section of the bicycle path on East Anemone Trail. This may include additional paving, and/or delineation of a separate bicycle/pedestrian lane, along East Anemone Trail, and the installation of clear signage at each end.
- A safe method for crossing Highway 6 should be provided for the residents that live north of Highway 6 in the Tenderfoot and Corinthian Hill Subdivisions. This may include the creation of grade separated crossing, additional signage or other acceptable methods.
- Install, where appropriate, additional sidewalks near the Town Center that radiate out into the existing residential neighborhoods. These improvements should also include the installation of adequate pedestrian scale lighting intended to create safe pedestrian movements into and out of the Town Center area.

- Investigate methods to improve pedestrian crossings at the intersections of Lake Dillon Drive and Highway 6, and the Dillon Dam Road and Highway 6.
- Investigate methods to provide better access into the Dillon Market Place from the existing commercial centers to the west.
- Provide additional bicycle service amenities (i.e. bike racks, etc.) in the Town Center.

V. Parking.

The Town currently owns the parking areas in the Town Center and at the Marina. The Leland study, the DERAC recommendations, the Parks and Recreation Master Plan and the comments from JJR, the marina master plan consultant, all recommend the location of one or more parking structures. The location and the capacity of the structures have not been determined. The Town is evaluating its policies regarding parking and reassessed the costs of its fee-in-lieu program in order to accommodate the necessary parking spaces needed for a vital Town Center. The Town continues to evaluate its options following the completion of the Marina Master Plan and take steps to implement parking solutions for both the Marina and the Town Center. Parking lot improvements at Marina Park and the Marina in 2012 achieved increased parking at the Marina, and improved the drainage of the lots.

VI. Mass Transit.

Mass Transit is provided within Dillon by Summit Stage, which operates a countywide system of buses financed through a 0.75% County sales tax. Summit Stage presently serves the Towns of Silverthorne, Dillon, Frisco, and Breckenridge, and all four ski areas within the County. In 2003, the Town collaborated with Miller Weingarten and the Summit Stage to install a new bus shelter at Dillon Ridge Marketplace, fulfilling a much-needed shelter for a heavily used stop. The Town should continue to upgrade the bus shelters in Town and even create a coordinated design that is currently lacking.

The Town should work with Summit Stage in creating new bus stops as needed with new development or the redevelopment of the Town Core.

IX. *Other Circulation System Elements.*

Soft Surface Trails (mountain bike, equestrian trails) are a component of the Town's circulation system, continuing to become of greater importance to the community, especially in the summer. The Dillon Nature Preserve Trail Loop system and various Forest Service trails and roads adjacent to Dillon provide countless opportunities that need to be preserved and enhanced. The Town needs to work closely with Summit County and the Forest Service to preserve and improve existing trails, and develop new ones where appropriate. Future trails development should be accomplished in harmony with existing natural features, limitations and wildlife habitat, and where necessary, separate equestrian trails should be designated to keep incompatible uses separated.

The most important soft surface trail within the Dillon area is the Oro Grande Trail, which primarily runs in an east-west direction east of downtown. This trail is located to the north of Dillon along the hillside behind the Tenderfoot Addition and Corinthian Hill Subdivision. The trail allows for a number of uses, including mountain biking, hiking, horseback riding, and cross-country skiing and snowshoeing. Motorized vehicles are no longer allowed to be used on the trail. The Town should work with the US Forest Service and monitor any USFS actions which could impact allowed uses on this trail.

VII. Goals and Policies

Streets:

Goal: ***To develop a circulation system of roadways, mass transit, pedestrian and bicycle ways that will provide for safe and convenient movement of goods and people within Dillon and the surrounding area.***

Policies:

Design future streets to contribute to the creation of an efficient circulation network and provide for convenient movement of traffic and access to all parts of the community.

Limit access to the Highway 6 system. Major traffic generators should utilize secondary access points rather than direct highway access whenever possible.

Refine municipal street standards and requirements, and improve the street system in the future to accommodate future growth and correct any existing problems. These improvements should include:

- Work with the Colorado Department of Transportation to determine safe, convenient, and consistent speeds for Highway 6, that reduce the potential for accidents, while allowing safer access onto and off of the highway, and reducing noise pollution from vehicles traveling on the road.
- Work to improve the Evergreen street system north of Highway 6.

Construct roadways, sidewalks, and bikeways to Town standards. Developers should pay for those facilities that serve their developments and dedicate all necessary rights-of-way.

Update municipal street standards and incorporate these updates into existing ordinances that require all new streets built within the Town to be constructed as public streets.

Update existing street standards and address issues such as street section standards, radius standards, curb design, intersection design, driveway and access standards, and other related issues.

Bicycle and Pedestrian Ways:

Goals: ***To develop a circulation system of pathways that will provide for safe and convenient movement of pedestrians and bicycles within Dillon and the surrounding area.***

Policies:

Provide an overall system of pedestrian paths and sidewalks, as well as multi-use paths, which are physically accessible to all segments of the community.

Provide the annual budgeting for maintenance of pedestrian paths and sidewalks and multi-use paths.

Provide separate paths for various user groups when possible, or design systems and improvements that can accommodate a mixture of users.

Encourage and/or require developments to provide adequate bicycle parking and storage areas, and to improve bicycle parking and storage facilities at bus stops and other areas of public activity.

Incorporate a bicycle/pedestrian path into any expansion or improvements to Highway 6.

Encourage non-motorized travel to major activity centers such as schools, shopping areas, parks, and the work place.

Encourage future design features of pedestrian and bicycle ways that allow for dual winter/summer usage.

Develop a bicycle and pedestrian plan and continue to provide and improve bicycle and pedestrian ways and sidewalks as part of its continuing street improvement projects.

Work closely with Summit County and the Forest Service to preserve and improve existing soft surface trails adjacent to Dillon and to develop new ones where appropriate. Future trail development should be accomplished in harmony with existing natural features, limitations, and wildlife habitats. Trail connections should be provided between existing residential neighborhoods and future adjacent neighborhoods in order to promote a reduction in the use of the automobile

Evaluate the need for sidewalks within the community and install them where the need exists. Priority should be given to sidewalks that are located in close proximity to existing and future commercial areas. Sidewalk improvements should connect the Town Center and Dillon Ridge Marketplace to existing residential neighborhoods.

Specific projects to facilitate better circulation include:

- Improve connections between the Marina and Town Center to promote pedestrian activity throughout Town.
- Work with existing residential neighborhoods north of Highway 6, east of downtown Dillon (Tenderfoot and Corinthian Hill) to provide a safe method for crossing the highway. This may include the creation of grade separated crossing, additional signage or other acceptable methods.
- Install, where appropriate additional sidewalks near the Town center that radiate out into the existing residential neighborhoods. These improvements should also include the installation of adequate lighting intended to create safe pedestrian movements into and out of the Town Center.
- Investigate methods to improve pedestrian crossing at the intersections of Lake Dillon Drive and Highway 6, and The Dillon Dam Road and Highway 6.
- Investigate methods to provide better access into the Dillon Market Place from the existing commercial centers to the west.
- Improve the East Anemone Trail Rec. Path with additional pavement and / or delineation to separate the trail uses from traffic and install clear directional signage.

Mass Transit:

Goal: ***To support and help formulate a mass transit system that meets the transportation needs of the community for in-Town and countywide service to help in the conservation of energy, the reduction of air pollution, and to improve the overall quality of life in Dillon.***

Policies: Cooperate with public and private agencies to encourage public transportation.

Continue to support the Summit Stage, and encourage additional routes within the community.

Evaluate opportunities to provide additional transit facilities within the community, such as commercial circulators, and provide convenient and safe access to and from all public transit systems.

Work with the Summit Stage on a new transit center in Dillon.

Plan for the future by participating in the proceedings of the I-70 Coalition, the potential development of a multi-modal I-70 corridor, and the mass transit impacts they will have on the community.

Land Use:

Goal: ***To develop a safe, convenient, and economical transportation system which does not disrupt neighborhoods, various unique natural resources, or cohesive land use zones, and responds to the proposed future land use patterns established in the Plan.***

Policies: Encourage compact community development through the circulation network without disrupting or bisecting neighborhoods or other areas with a natural unity.

Provide a logical continuation of the existing street system through new streets. Street alignment shall be determined with consideration given to existing property lines, natural features, and maximum land utilization.

Parking:

Goal: ***To provide public parking that meets the needs of the Town from the standpoint of quantity and location.***

Policies: Provide public parking spaces within new development and redevelopment in close proximity to the Dillon Town Center. The Town should investigate its ability to provide both on-street as well as off-street public parking.

Develop a program of clear and consistent enforcement of parking regulations in the Town Center, other commercial areas, and residential areas of the community.

Section 8: Community Facilities and Utilities

I. Introduction

The Community Facilities and Utilities section of the Comprehensive Plan describes the general location, character, and extent of the Town-wide systems of community facilities and utilities proposed to serve the existing community and provide for its future growth. This section builds off of the existing facilities and utility systems, and addresses the goal: "To plan and develop a timely, orderly, and efficient arrangement of future community facilities and public utilities to serve as the framework for future urban development."

Dillon's community facilities, services, and utilities must be expanded and improved if the Town is to maintain an adequate level of services for its future needs. Because community services are often costly and relatively permanent, it is important that they be planned to economically fulfill the long term needs of the community.

This section of the Plan contains a general inventory of educational, fire protection, water and sewage facilities, energy and communications systems, and other community facilities, services and utilities.

The policies and recommendations found at the back of this Plan section are aimed at providing for an urban level of community facilities and services throughout the Comprehensive Plan Boundary at build out. It is important that the extension of urban community facilities, services and utilities for developing areas be undertaken in a coordinated manner to achieve balanced community growth, while also taking into consideration the opportunities and constraints associated with the community's natural resources.

The following table illustrates the level of service that the Town provides in 2015. Levels of service are used to compare over time to determine if service has improved or declined.

2015 Level of Service(based on 5000 seasonal population)	
Parks- acres per person	.04 ac
Trails- linear feet per person	9.66 ft.
Streets- miles per person	.00186 miles
Water Plant Capacity (gallons per day)	1.5 million gal.
Actual Water Use (gallons per day)	300,000 gallons
Town Employees per Household	0.0160
Police Personnel per Household	0.0045
Fire Personnel per Household	0.0032
Town Limits (in acres)	1495 ac
Town Limits Excluding Reservoir (in acres)	952 ac

II. Town of Dillon Facilities.

The Town of Dillon owns and operates a number of public facilities within the Town limits, other than utilities that are of importance to the community. These include Town Hall at 275 Lake Dillon Drive; Dillon Town Park adjacent to Town Hall, the Old Town Hall, the Dillon Amphitheater, Marina Park, the Marina Park Pavilion, the Marina, Dillon Cemetery, Town Center Parking Lots, Recycling Center at Town Hall, and various bicycle and pedestrian paths throughout Town.

Of these facilities, the marina and amphitheater are economic generators for the community as each brings visitors into the community for various events and activities.

The amphitheater was recognized by the community as an important asset and should be maintained and improved.

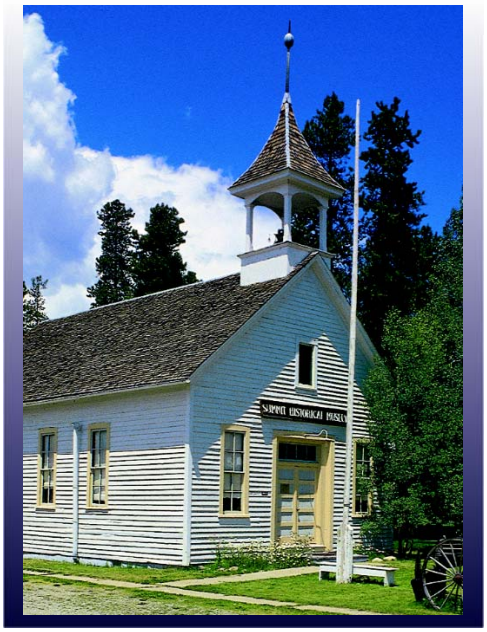
The Marina is noted in all recent studies as the gem of Dillon, an area that attracts locals and tourists alike to Town. The Town recognizes the importance of this facility. A consultant was retained in 2008 to develop a Marina Master Plan. The Marina Master Plan made numerous recommendations for Marina and Marina Park improvements, many of which have now been implemented. Marina facility improvements continue, but have included new bulkhead construction and slope armoring work, new dock ramps, construction of a new mast stepping and boat inspection area, and a new paved Marina parking lot. Much of the concepts presented in the Marina Master Plan have now been implemented, and the Town continues efforts to realize the vision of that plan with numerous Marina improvements planned to continue into the future.

Marina Park, while an asset to the community, was identified as needing additional improvements to ensure that it would serve the needs of the Town for years to come. The GreenPlay Parks and Recreation Master Plan noted that Marina Park is being "loved to death". The new Marina Park playground was completed in 2009. The Town completed the construction of the Marina Park Pavilion in the spring of 2010 and completed the rotation of the parking lot in the spring of 2012. A Marina Park masterplan was completed in 2011 and implementation started in 2012. The plan includes new picnic areas which are strategically located to spread out this use throughout the park. The plan also includes new planter areas complete with trees, bushes and grass areas, which were completed in 2015.

The Marina Master Plan consultant also took an interest in the planning efforts for the Town Center, and emphasized the need for any plan to strengthen the link between the Marina and Town Center. The recommendations of any master plan should be evaluated each year during the budget process and used to prioritize capital improvements in the coming years.

The Town is also in the process of developing and implementing a Town Park Master Plan. In 2013 a Town Park Master Plan was developed, and now the Town is working on design aspects to implement that plan.

The Old Dillon Town Hall was moved to its present site on Lake Dillon Drive in 1961, and has subsequently undergone numerous additions and rennovations. The building is therefore not considered historical. The Town should consider possible options for both the building and the Town owned property should this occur.



The Old Town Hall, along with other buildings moved from the old Dillon Town Site represent historic assets for the community that should be considered for preservation and/or possible enhancement. These buildings include the Old Dillon Town Hall, the Rebecca Lodge behind the Old Town Hall, and the Schoolhouse, Myers House, and Honeymoon Cabin all located within the Summit County Historical Society's Dillon Schoolhouse Museum and Historic Park along La Bonte Street.

Despite the short history on the current Town site, the Town itself has a long history and celebrated its 125th anniversary in 2008. The Town's newest pocket park, the Historic Pocket Park near the amphitheater, commemorates some of the historical activities in the Town. The Town should consider preservation of oral, written and photographic history and support the efforts of the Summit Historical Society. The Town should also encourage use of architectural elements to echo historic features should redevelopment occur in the Town Center.

The Dillon Cemetery was established in 1885 and moved to the new town site in 1962. The Cemetery Advisory Committee was established in 2003 to advise the Dillon Town Council regarding ongoing and newly identified needs of the Dillon Cemetery so as to perpetuate the dignity and history of the site and those individuals interred there. The Mission Statement of the Cemetery Advisory Committee is "To determine and implement strategies to protect, preserve, and promote the Dillon Cemetery". To this end, the Committee has established goals outlined in the goals subsection at the end of this section.

III. Parks and Open Space

Over the past twenty years the Town has worked diligently to preserve critical open space parcels and to create additional parks within the community. While these land uses are discussed together they sometimes have very different purposes and uses that occur within each. The one thing they have in common is that they are open areas that provide benefit to the community.

There are three primary parks within the Town of Dillon. These include:

- The Dillon Town Park, located east of Town Hall. This park is the primary activity park within Town and contains a youth baseball field, a basketball court, two Bocce Ball Courts, playground equipment and four tennis courts. The park also has picnic shelters and bathroom facilities. The Parks and Recreation Committee recommended a master plan for Town Park, also recommended by both the Leland Study and the Parks and Recreation Master Plan. A Town Park Master Plan was completed in 2013, and work continues for design elements for its implementation.

- The Marina Park is the most utilized park within the community, and is also the most developed. It is adjacent to the Marina and its facilities. The Amphitheatre hosts various concerts and events throughout the summer months. The area also includes restroom facilities, concessions facilities, picnic tables, a playground, and the Marina Park Pavilion. The Parks and Recreation Committee recommended a master plan for this area. Both JJR (the marina consultant) and GreenPlay recommended that a master plan evaluate how best to use this beloved area. A Marina Park Master Plan was completed in 2011, with much of the work envisioned therein completed in 2015. Point Dillon Lawn provides a green, irrigated open space for multiple uses and may be rented for events. This park feature is the western most end of Marina Park.

- The Dillon Nature Preserve is the third primary park within the community. This 173-acre park was obtained in 1997 from the Denver Water Board as a component of an annexation agreement. This park is a passive park intended for the enjoyment of nature and contains a parking lot and hiking trails, but little other development.

- Other Town of Dillon Parks. In addition to the three primary parks within the community a series of pocket parks have been designated within Town, that provide places for art, and history to be enjoyed. These parks were developed in conjunction with the former Pocket Park Advisory committee, and are usually funded by private citizens. The pocket park program has not been actively used in recent years. By 2003, the Town had created five parks: Hasty, Christiansen, Eagle, Stair, and Point Dillon. In 2007 Town staff completed construction on the Historic Pocket Park, located near the base of the amphitheater.

- Open Space. Open spaces within the community are in a number of different locations, and include the parks mentioned above and various other public and private open spaces throughout the community. Public “open space” is required as a component of subdividing land, and was acquired north of the Dillon Ridge Market Place Shopping Center, and in the northwest corner of Lookout Ridge. These two parcels, in combination with an additional one acre parcel located in the same area were acquired to provide some relief between these very high density projects and the residential neighborhoods to the north, as well as to provide some visual relief along the hillsides.

IV. Education

Dillon is included within the Summit County R-1 School District and served by Summit High School located in Farmers Korner at the south end of Dillon Reservoir, The Summit Middle School in Frisco, six miles west of Dillon, and Dillon Valley Elementary School located at 108 Deerpath Road in the Dillon Valley. The elementary school provides education for children in grades kindergarten through fifth grade. The Town is also located within the Colorado Mountain College district, which has their primary Summit County facility in Breckenridge and a secondary facility in Dillon.

V. Public Safety

Police protection is provided by the Dillon Police Department. The residents of Dillon enjoy living in one of the safest communities in Summit County. Most recent concerns of residents include noise complaints, engine brake issues, and parking problems. Solutions to these concerns include the creation of a noise ordinance, purchase of a decibel meter, and new signs on Highway 6 advising truckers of the Jake brake statute. The staff of the police department share specialties in K-9 service, S.W.A.T. team expertise, evidence processing, and fingerprinting technology. The department also received a grant and initiated a truck safety compliance inspection program in 2007 focusing on US Highway 6 truck traffic. This program continued for several years until it was discontinued in 2013.

VI. Fire Protection.

Fire protection is provided within the Town by the Lake Dillon Fire Rescue and is served primarily by two stations located at 401 Blue River Parkway in Silverthorne and at 325 Lake Dillon Drive in Dillon. In the event of a catastrophic event other stations could respond.

The District boundary includes the Silverthorne, Frisco and Dillon Town limits, and also includes the Keystone Area and the residential subdivisions between the Town of Dillon and Keystone. The District response zone is extensive and stretches from the Eisenhower tunnel and Dillon Town limits on the east to the Summit County line north of Silverthorne. Additional information on the district boundaries or about the LDFA can be found on their website at http://www.ldfr.org.

The Town has also participated with the County and other agencies to develop a Wildland Urban Interface map for the County. As the area continues to recover from pine beetle infestation, the Town should continue to participate in cross-jurisdictional fire mitigation planning and reforestation efforts.

VII. Utilities.

Water System. Water is provided within Town boundaries by the Town of Dillon's water treatment plant located on County Road 51 east of Highway 6. The water source is primarily surface water from Straight Creek and Laskey Gulch. The current capacity of the water plant is 1.5 million gallons per day (mgd), but the Town currently averages use of approximately 300,000 gallons per day with a peak daily use of 743,000 gallons. The Town's two treated water tanks' storage capacity is 900,000 gallons. The Town is currently replacing the existing water tank near the water plant with a 1 million gallon, which will ultimately contribute to a total storage capacity of 1.5 gallons of treated water. The Town has emergency water interconnects with the Town of Silverthorne and the Dillon Valley Metropolitan District.

With regards to the Town's ability to provide water, the Town of Dillon owns 46 acre feet in Old Dillon Reservoir, 20 acre feet in Clinton Reservoir, 2.26 million gallons per day (mgd) of surface rights in Straight Creek/Laskey Gulch, and 33 acre feet of water in Dillon Reservoir. The Town completed an enlargement project of Old Dillon Reservoir in 2014 as part of a cooperative project with Summit County and the Town of Silverthorne. This increased the 46 acre-feet of storage to around 109 acre-feet. This provides an alternate source of supply in case of source problems in Straight Creek / Laskey Gulch, though the infrastructure to transmit the water remains yet to be realized.

Sewer. Sanitary sewage facilities are provided by the Silverthorne/Dillon Joint Sewer Authority which manages and operates the Blue River Wastewater Treatment Plant located in the northeastern portion of Silverthorne adjacent to the Blue River, and the major sewer interceptor lines which transmit flow to the plant. There are three interceptor lines operated by the authority. These are known as the east bank, west bank, and joint interceptors. The Town of Dillon operates and maintains its internal sewer collection piping system.

The Silverthorne Dillon Joint Sewer Authority and their Blue River Wastewater Treatment Plant (www.brwtp.org) was originally created by an agreement between the Towns of Dillon and Silverthorne to build and operate a sewage transmission and treatment system. Buffalo Mountain Metro District, the Mesa Cortina Subdivision and the Dillon Valley Metropolitan District and the Union Corporation (Eagles Nest PUD) have since joined the Joint Sewer Authority.

The sewage treatment plant provides secondary and advanced treatment for sewage collected from Silverthorne, Dillon, Dillon Valley, Buffalo Mountain (Wildernest), and Mesa Cortina. The west bank interceptor line serves most of Silverthorne, with some areas being served by the east bank interceptor, which primarily collects Dillon's and Dillon Valley's sewer collection piping systems. The Blue River Sewage Treatment Plant was originally constructed in 1972 as an aerated lagoon. It has been upgraded and expanded on three occasions and has an existing overall design capacity of 4.0 million gallons of maximum daily flow.

Other Utilities. Electric and natural gas services are provided by Xcel Energy. Land based telephone service is available through Century Link Communications, while television cable services are provided by Comcast. No apparent capacity problems exist with the provision of any of these utilities.

An additional utility company that has a major effect on the Town is the Denver Water Board. While Denver Water does not provide utility service to Dillon or the Summit County area, it is a major landowner in the area and the operation of its facilities and development of its lands has an impact on the community. Denver Water owns and operates the Dillon Reservoir which has 254,036 acre feet of storage and the Robert's Tunnel, which provides water to customers in the Denver area. The operation of the Denver Water facilities is critical to the community as the reservoir provides immeasurable recreational value to the community and is a major economic generator for Dillon as it brings many summer visitors to the area. Dillon cooperates with Denver Water to ensure the proper operation of the reservoir and

its facilities, and zoned Denver Water's operational facilities at the end of the Robert's Peninsula in a manner that recognizes their existence and allows for future uses that may be necessary for the proper operation of the facility.

VIII. Build Out Projections

Two major factors impose limits on Town expansion: availability of developable land within the Town limits and water/sewer capacity. The Town measures sewer capacity based on the Silverthorne/Dillon Joint Sewer Authority standard EQR (single family equivalent). The 2015 assessment of Sewer EQR need is reflected in the table below.

2015 Sewer EQR Build Out	
Existing Residential (total Sewer EQRs)	
Single Family	319
Multi-family	842
Hotel/motel	101
Subtotal:	1262
Future Residential	
Vacant Properties	23
Existing Properties	117
Urban Reserve Properties	238
Un-annexed USFS Properties	13
Subtotal:	400
Commercial and Other Land Uses	
Existing	472
Future	260
Subtotal:	741
Total existing Sewer EQR demand	1743
Total Sewer EQR requirements for build out	2403
Total Current EQRs with the Silverthorne/Dillon Joint Sewer Authority	2403*

*The Town purchase of 295 EQR's in 2013 brought the current EQRs with the Silverthorne / Dillon Joint Sewer Authority up to 2403 EQR's from 2108 EQR's for total build out.

Current water capacity can support 3000 EQRs. Estimated Sewer EQR demand for the Urban Reserve Properties owned by Denver Water was developed taking the total developable acres per parcel, subtracting 20% for infrastructure, and estimating a density of 3 units per acre. New development should focus first on parcels with ready access to infrastructure (water/sewer, electrical and communications). It is suggested that xeriscaping and other best management practices should be required in the development of these properties to potentially reduce total water demand. Estimates for commercial properties reflect vacant developable parcels around Dillon Ridge Marketplace, developed at a similar density to the current commercial spaces.

IX. Goals and Policies

Community Facilities and Utilities:

Goal: ***To provide a balanced system of community facilities, services and utilities to meet the current and future needs of the community and all of its citizens.***

Policies: Ensure that community facilities are provided in a manner that contributes to an efficient framework for incremental community growth and development.

Consider impacts on community facilities and services when development and annexation requests are reviewed, and deny projects that are unable or unwilling to mitigate negative impacts.

Provide public facilities and services in a manner that meets the physical needs of all segments of the community including permanent and short term residents, visitors, those with disabilities, the elderly and the young.

Require facilities and services required by new developments to be paid for by developers through fees reflecting actual review costs to the Town, construction and/or land dedication as specified in the land use regulations.

Provide and pay for those facilities and service which benefit the general community, but not those which benefit specific developments or areas.

Approve developments only if required facilities needed to serve that development exist or are programmed to exist by the time the development is built.

Require developers to pay for any needed facilities or services such as utility line extensions or roadway improvements that are necessary to serve any future development.

Encourage the full and efficient use of existing facilities prior to expanding to new facilities.

Historic Preservation:

Goal: ***To preserve and enhance the existing historic assets including physical buildings, as well as oral, written and photographic histories remaining in and near Dillon.***

Policies: Continue to cooperate and participate in the activities of the Summit Historical Society.

Fire Protection:

Goal: ***To cooperate with Lake Dillon Fire Rescue (LDFR) to provide a fire protection system that is of high quality and can meet the existing and future needs of the community, and keep fire insurance rates as low as possible in the community.***

Policies: Continue to work with the Joint Fire Authority to provide for the community's fire protection needs.

Continue to provide water lines and maintenance adequate to meet fire flow requirements, and the Town should not allow new developments unless adequate fire protection can be provided.

Evaluate existing development ordinances to insure they provide adequate measures for fire protection, and modify them if necessary.

Sewer Facilities:

Goal: ***To provide a sewer collection and treatment system that meets the current and future needs of the community.***

Policies: Continue to work cooperatively with the Joint Sanitation District to provide the future needed sewage facilities required for the build-out of the Dillon Comprehensive Plan Boundary.

Require new developments to provide sewage system improvements required to meet the needs of the project. For projects adjacent to existing sewer facilities, this may be as simple

as tapping into the collection system and paying applicable plant investment fees / tap fees, while the development of projects away from any existing collection systems may need to provide a sewer line extension. Annexations and rezoning to high intensities should not be allowed unless the applicant is willing and able to provide and/or finance those improvements, including plant expansions necessary to meet the needs of the proposed project.

Seek to ensure that sewage system improvements are undertaken in a manner that will be least disruptive to the environment and the community.

Work cooperatively with the Joint Sewer Authority to update the EQR schedule and inventory all commercial and residential buildings within the Town to accurately assess the taps needed.

Water System:

Goal: ***To provide a water distribution and treatment system that meets the current and future needs of the community.***

Policies:

Continue to look toward the future and provide adequate water rights and storage capacity to meet the future build-out of the community.

Require new developments to provide the water system improvements needed to meet the water needs of their projects. For single-family homes adjacent to existing water distribution lines, this may be as simple as tapping into the existing water lines and paying the appropriate plant investment fees / tap fees. While for annexation requests and rezoning for uses that utilize additional treated water, the applicant will be required to either provide the necessary facilities or financially guarantee their installation prior to them being needed.

Ensure that future water system improvements are undertaken in a manner that will be least disruptive to the environment and the community.

Continue to strive toward conservation of the community's water resources through policies in Town development ordinances.

Revise the current landscaping regulations and drought response program to reflect best management practices concerning water conservation and the use of drought-tolerant native plant species.

Cemetery:

Goal: ***To maintain a natural setting at the cemetery.***

Policy Install an underground water tank and establish a tree & brush management plan.

Goal*:** ***To update the cemetery regulations and make improvements.

Policy Install lighting for the Flag, mark the unmarked graves, erect a columbarium, name the roads in the Cemetery, install a directory map, rewrite the current rules & regulations, and build a pavilion.

The Town surveyed and established lot markers in 2015. The lot markers should be preserved and maintained.

Goal: ***To provide sustainable funding for the care and improvement of the cemetery.***

Policy Develop a cemetery foundation for donations and revisit lot fees.

Continue to work with and support the Dillon Cemetery Committee.

Goal: ***To expand the cemetery.***

Policy Negotiate with the Denver Water Board to assess and acquire appropriate areas for cemetery expansion.

Parks and Open Space:

Goal: ***To facilitate pedestrian linkages in Town.***

Policies: Provide additional paths throughout the community that link all parts of the community to each other, and to the county and surrounding areas.

Provide sidewalks from the commercial core to the residential areas to encourage greater pedestrian activity, and to reduce the need to utilize the automobile to travel short distances.

Provide vandal proof shelters along new and existing trails to provide protection from inclement weather.

Improve pedestrian links from Lake Dillon Drive across Highway 6 towards Dillon Valley.

Improve pedestrian links from the Dillon Dam Road to the Dillon Ridge Market Place.

Improve pedestrian links along Highway 6, near Dillon Ridge Market Place and into Silverthorne.

Make improvements to the bike paths within the community. Provide maintenance to cracks, provide better signage, and improve the East Anemone Trail path section.

Develop new trails, and improve existing trails between existing and proposed neighborhoods along Highway 6 and the Oro Grande trail.

Goal: ***To provide adequate park access and availability to residents and visitors.***

Policies: Encourage a balance between population and park needs. Look at regional considerations.

Examine options to repurpose and reactivate Dillon Town Park as recommended in the GreenPlay Parks and Recreation Master Plan, and ultimately the 2013 Town Park Master Plan. Consider the following:

- Create gateway elements as points of entry into the park
- Develop a park pavilion / plaza along with dispersed shade structures

- Develop the park as the primary location for community festivals or the farmers market instead of Buffalo Street where a number of conflicts exist.
- Consider replacement of the ballfield with a multi-purpose open grassy area
- Develop pickle ball courts separate from the tennis courts
- Maintain new picnic shelters and restrooms, and provide a circulation system to connect the entire park with the Town Core and surrounding residential areas.
- Determine the need for additional parks and facilities within and adjacent to the community. The 2006 Community Survey assessed desire for both indoor and outdoor facilities.

Other Systems:

Goal: ***To work with public utility providers to encourage the best possible services be provided to the community.***

Policies: Require electric power distribution systems, telephone and cable television lines to be located underground in all future developments.

Require future utility substations to be located outside of residential and intensive commercial land use zones. When this is impossible, improvements shall be undertaken to visually integrate the facility with nearby developments through landscaping or a combination of attractive fencing and landscaping.

Section 9: Implementation

The adoption of the Comprehensive Plan by the Dillon Town Council will have little effect on the community unless the Town follows through by implementing the various policies and recommendations contained within the Plan. Many of the policy recommendations will require additional citizen input, planning and design before they can be carried out, while others can be accomplished with little additional community effort.

The following tasks are suggested to begin to fully implement the 2017 Dillon Comprehensive Plan.

Special Study Area

Continue to work with the Snake River Planning Commission and Summit County Planning Department to coordinate future development.

Town Center Revitalization

Implement the recommendations of the Dillon Economic Revitalization Advisory Committee Town Center Vision and Direction Report. Utilize the Dillon Urban Renewal Authority to encourage redevelopment of the Town Center. Recommendations include the development of an incentive plan to encourage redevelopment and investment in the Town Center. Projects should improve the overall appearance of the Town and provide a sense of place.

Marina Master Plan

Evaluate the recommendations from the Marina Master Plan. The Marina Master Plan should be implemented in conjunction with priority recommendations from the Dillon Economic Revitalization Advisory Committee and the Parks and Recreation Master Plan.

Historic Preservation Plan

Continue to cooperate and participate in the activities of the Summit Historical Society.

Parks and Recreation

Work to develop an implementation plan for key recommendations from the Parks and Recreation Master Plan. This plan should be revisited and evaluated for an update no later than 2018.

I. Summary

The Comprehensive Plan serves as a framework for decisions by Town Council, the Planning and Zoning Commission, as well as Town staff. This document also serves as valuable information for possible new development and economic enterprises in the Town. Both staff and governing bodies need to be familiar with the Plan and use its goals and policies to guide policy, budgetary, capital improvement and asset management decisions. The goal is to keep Dillon a vital, beautiful and economically stable Town well into the future.

DILLON
COLORADO

Dillon Water
Source Water Basin

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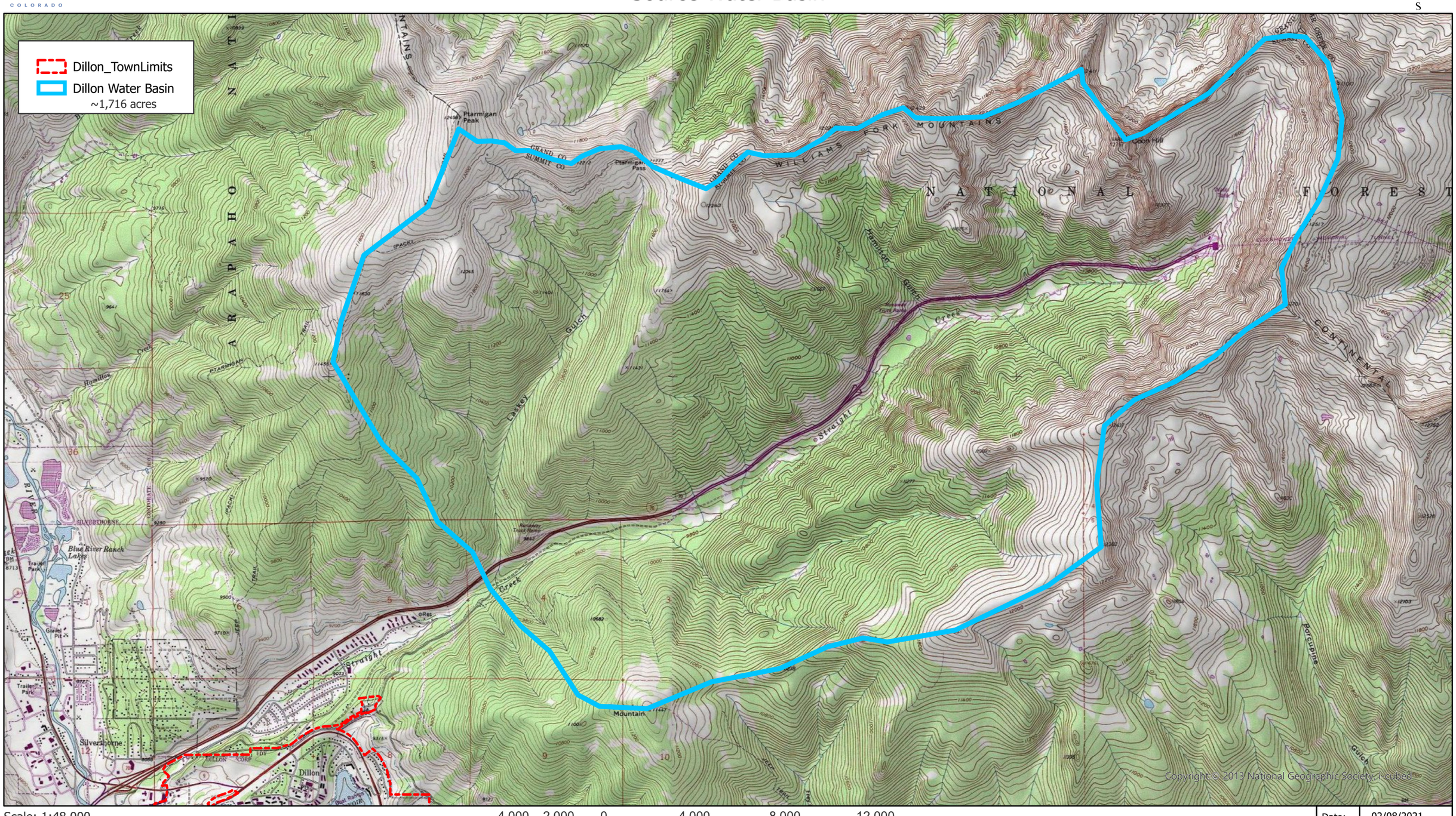

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4,000 2,000 0 4,000 8,000 12,000 Feet

Date:	02/08/2021
Creator:	N. West

Sec. 7-5-140. Recommended trees and shrubs.

The following Tables 7.1 and 7.2 contain lists of recommended trees and shrubs for the Town, as well as their watering needs, mature heights and the elevations at which they grow. This list does not contain all the trees and shrubs which will grow in the County, but rather the trees and shrubs which are native to this area. It is recommended that private property owners contact their local nursery to obtain information on planting location, correct planting techniques, watering needs and spacing. Generally, trees should not be planted closer than thirty (30) feet for large trees, twenty (20) feet for medium trees and ten (10) feet for small trees.

Table 7.1
Recommended Trees

Tree	***Elevation (ft)***	***Height (ft)***	***Water Requirements***
Alpine Fir	Up to 10,000	60 to 100	Moderate
Balsam Poplar	Up to 10,000	50 to 100	Low to moderate
Bristlecone Pine	7,000 - 11,000	8 to 20	Low to moderate
Colorado Blue Spruce	6,000 - 11,000	65 to 115	Moderate
Colorado Spruce	Up to 9,500	60	Moderate
Douglas Fir	6,000 - 11,000	75	Moderate to moist
Engelmann Spruce	Up to 10,500	60	Moderate to moist
Lodgepole Pine	Up to 10,000	50 to 100	Low to moderate
Ponderosa Pine	Up to 10,500	80	Low to moderate
Quaking Aspen	Up to 10,000	40 to 50	Moderate to moist
Thin-leaf Alder	Up to 10,000	10	Moist to wet

Table 7.2
Recommended Shrubs

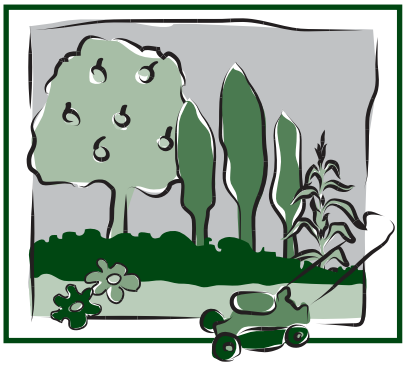
Shrub	***Water Requirements***
Common Juniper	Low to moderate
Kinnikinick	Low to moderate
Big Sage	Low
Bog Birch	Moist to wet
Western River Birch	Moderate to moist
Rabbitbrush	Low
False Rock Spirea	Moderate to moist
Cliff Jamesia	Well-drained
Twinberry Honeysuckle	Moderate to moist
Creeping Mahonia	Moderate
Mountain Lover	Low to moderate
Mountain Ninebark	Moderate
Potentila	Moderate
Native Chokeberry	Moderate
Antelope Bitterbrush	Low
Squaw Currant	Low to moderate
Whitestem Gooseberry	Moderate

Wood's Rose	Low to moderate
Thimbleberry	Moderate
Native Red Raspberry	Moderate
Coyote Willow	Moist to wet
Willow	Moist to wet
Climax Willow	Moderate to moist
Red Berried Elder	Moderate to moist
Russet Buffaloberry	Low to moderate
Mountain Snowberry	Moderate

Colorado State University
Extension

Native Trees for Colorado Landscapes

Fact Sheet No. **7.421** Gardening Series | **Trees and Shrubs**



by J. Klett, B. Fahey and R. Cox*

Why Grow Native Trees?

There are many benefits to using Colorado native trees for home and commercial landscapes. Colorado native trees are naturally adapted to their specific Colorado climate, soil, and environmental conditions. When correctly sited, they can be ideal plants for a sustainable landscape that requires reduced external inputs such as watering, fertilizing, and pruning. In order to realize these benefits, the planting site must approximate the natural environmental conditions of the plant in its native habitat.

Another benefit of using Colorado native trees in landscapes is that they attract a wide variety of wildlife including mammals, birds, and butterflies. Rapid urbanization in the state is reducing biodiversity as habitat is removed for building and road construction. Landscaping with natives on a large or small scale can maintain biodiversity that otherwise could be lost to development.

The trees listed in Table 1 are grown by some Colorado nurseries and are becoming more available in the commercial sector. However, not all trees listed are available at all nurseries, so you may need to contact several commercial outlets to find a specific plant. If a tree is not sold in the trade, asking for it may help increase its availability. Native trees should not be collected from the wild because this reduces the biodiversity and causes a disturbed area that may be invaded by weeds.

Most of the trees listed in Table 1 are available as container-grown plants. Native trees often do not have as great a visual impact in the container or immediately after planting as do traditional horticultural species. Over time, they reward the homeowner with their natural beauty and other benefits.

Where to Grow Native Trees

There are several factors to consider when designing a native landscape. Due to Colorado's variation of elevation and topography, native plants are found in many habitats. In order to maximize survival with minimal external inputs, trees should be selected to match the site's life zone and the plant's moisture, light, and soil requirements. Even if a plant is listed for a particular life zone, the aspect (north, south, east, or west facing) of the proposed site should match the moisture requirement. For example, a blue spruce, which has a high moisture requirement, should not be sited with plants of dissimilar water needs. Similarly, a blue spruce should not be planted on a south-facing slope, where a significant amount of additional moisture would be required.

Figure 1: Ponderosa pine cones (*Pinus ponderosa)*

Figure 2: Alder fruit (*Alnus tenuifolia)*

Quick Facts

- A Colorado native tree can be described as existing in Colorado prior to European settlement.
- Native plant communities make Colorado visually distinct from the eastern, southern or western United States.
- Native plant gardens are wildlife habitats and each plant contributes to the biodiversity of the state.
- Landscaping with natives on a large or small scale can maintain biodiversity that otherwise would be lost to development.

*J. Klett, Colorado State University Extension landscape and horticulture specialist; B. Fahey, Jefferson County Extension natural resources/horticulture agent; and R. Cox, Arapahoe County Extension horticulture agent. 7/08

Figure 3: Ponderosa pine (*Pinus ponderosa*)

Figure 4: Bristlecone pine *(Pinus aristata)*

Figure 5: Douglas-fir cone (*Pseudotsuga menziesii)*

Growing native trees does not exclude the use of adapted non-native plants. There are many non-native plants that are adapted to Colorado's climate and can be used in a native landscape as long as moisture, light, and soil requirements are similar. If a site has a non-native landscape that requires additional inputs (such as an irrigated landscape on the plains), dry land native plants can be used in non-irrigated pockets within the non-native landscape. These native "pocket gardens" can be located in areas such as parkways and next to hardscapes that are difficult to irrigate.

Some communities regulate landscape appearance or the type of plants that may be used. So before completing a landscape design, check with local authorities, including homeowner's associations, to discover any regulations that may affect your design.

Life Zones of Colorado

Colorado can be divided into five life zones that are broadly defined by the plant communities that occur at the approximate elevations described below. The Plains life zone, 3,500 to 5,500 feet, is located in eastern Colorado where the majority of Colorado's population resides. It is dominated by grasslands and streamside cottonwoods. In western Colorado, the Upper Sonoran life zone is located at altitudes below 7,000 feet, and in the San Luis Valley, below 8,000 feet. This zone is characterized by semi desert shrublands and piñon pine-juniper woodlands at its upper limit.

The Foothills life zone occurs from 5,500 to 8,000 feet and is dominated by dry land shrubs such as Gambel oak and mountain-mahogany, and in southern and western Colorado, piñon-juniper woodlands and sagebrush. The Montane zone consists of ponderosa pine, Douglas-fir, lodgepole pine, and aspen woodlands at elevations of 8,000 to 9,500 feet. Dense forests of Subalpine fir and Engelmann spruce dominate the Subalpine zone at 9,500 to 11,500 feet. The Alpine zone above 11,500 feet is a treeless zone made up of grasslands called tundra. Species requiring medium to high moisture occur along watercourses throughout all zones.

Figure 6: Douglas-fir (*Pseudotsuga menziesii)*

Figure 7: Gambel oak (*Quercus gambelii)*

Culture and Maintenance

Successful establishment of native trees may require supplemental moisture after planting. Once established, the watering frequency can be reduced or eliminated, if the plant was sited in its native environmental conditions. Container-grown trees can be planted at any time during the growing season. Container-grown native trees are often grown in a soilless mixture of peat and bark, so the planting site should be amended with some organic material.

Using native trees offers many benefits in addition to reduced maintenance. Natives are part of our natural heritage and the ecosystems of Colorado. Native plant communities make Colorado visually distinct from the eastern, southern, or western United States. Native plant gardens are wildlife habitats and each plant contributes to the biodiversity of the state.

Table 1. Native trees for Colorado landscapes.

Scientific Name[1]	Common Name(s)	Planting Altitude in feet[2]	Native Colorado Life Zone[3]	Moisture[4]	Evergreen/ Deciduous	Comments[5]
Large trees (45+ ft when mature)						
Abies concolor	white fir, concolor fir	4,000 - 10,000	Foothills - Montane	M - H	E	Symmetrical, pyramidal shape; for large landscapes; attractive, soft, blue-green needles; grows best where protected from wind.
Abies lasiocarpa arizonica	corkbark fir, subalpine fir	7,000 - 11,000	Montane - Subalpine	M - H	E	Narrow, pyramidal habit; blue-green needles; corky, white bark; less commonly available; potential for use at lower elevations.
Acer negundo	box-elder	4,500 - 7,500	Plains - Foothills, Upper Sonoran	M - H	D	Maple with compound leaves; found along streams; rapid grower; weak-wooded; short-lived; female trees attract nuisance box-elder bugs.
Picea engelmannii	Engelmann spruce	5,000 - 11,000	Montane - Subalpine	M - H	E	Large, densely pyramidal tree with blue-green needles and reddish, scaly bark when mature; found at high elevations with subalpine fir where it performs best; less commonly available.
Picea pungens	Colorado spruce	4,000 - 9,500	Foothills - Montane	M - H	E	Colorado state tree; sharp, stiff needles ranging from green to silvery-blue; horizontal branching.
Pinus contorta latifolia	lodgepole pine	6,000 - 11,000	Montane - Subalpine	M	E	Light green needles; persistent cones; tall, narrow form in native habitat; broader habit in landscape site; requires well-drained soils.
Pinus flexilis	limber pine	4,000 -10,000	Montane - Subalpine	L - M	E	Green to blue-green needles in bundles of 4-5; flexible twigs; larger, ornamental cones.
Pinus ponderosa	ponderosa pine	4,000 - 9,000	Foothills - Montane	L - M	E	Longer, yellow-green needles; bark has vanilla fragrance on warm days; turns cinnamon color with age.
Pinus strobiformis	Southwestern white pine	4,000 - 8,500	Foothills - Montane	L - M	E	Blue-green needles; large cones; scaly bark when mature; faster-growing; less commonly available.
Populus angustifolia	narrowleaf cottonwood	4,000 - 9,500	Foothills - Montane	H	D	Vertical growth habit; willow-like leaves; suckers heavily; best in natural areas along streams; males do not produce cotton; yellow fall color.
Populus sargentii	Plains cottonwood	4,000 - 7,000	Plains - Foothills, Upper Sonoran	H	D	Fast-growing; broad, irregular canopy; triangular leaves; males do not produce cotton.
Populus x acuminata	lanceleaf cottonwood	4,500 - 8,500	Foothills	H	D	Fast-growing; upright, rounded, dense branching; spear-shaped, drooping leaves; less suckering; natural hybrid between Plains and narrowleaf cotton-woods; males do not produce cotton.
Pseudotsuga menziesii	Douglas-fir	4,500 - 11,000	Foothills - Montane	M	E	Fast-growing; soft, medium to dark green needles; pyramidal shape; unique cones; alternate host for gall insects on spruce.
Small - Medium Trees (10 - 45 ft when mature)						
Acer grandidentatum	bigtooth maple, Wasatch maple	4,500 -7,000	Foothills - Montane[3a]	L - M	D	Native to southwest, with occurrences in Montezuma County; often multi-stem form; degree of orange-red fall color varies.
Alnus tenuifolia	thinleaf alder	5,000 - 10,000	Foothills - Subalpine	H	D	Large shrub or small tree; often multi-stemmed; yellow fall color not reliable; persistent fruits resemble miniature pine cones; found along streams; gray bark; sun to part shade.
Betula fontinalis (Betula occidentalis)	Rocky Mountain birch	5,000 - 9,000	Foothills - Montane	H	D	Small tree or large shrub; bronze-red bark; found along streams, often with thinleaf alder; yellow fall color; requires additional moisture in dry winters.
Juniperus monosperma	oneseed juniper	4,000 - 7,500	Plains - Foothills[3b]	L	E	Multi-stemmed tree with small, scale-like leaves; found on dry rocky slopes, often with piñon.
Juniperus osteosperma	Utah juniper	5,000 - 9,000	Upper Sonoran - Foothills[3a]	L	E	Spreading, multi-stemmed tree with small, scale-like leaves; large, grayish-blue, berry-like fruits are important food for small mammals and birds.

Table 1(cont.). Native trees for Colorado landscapes.

Scientific Name[1]	Common Name(s)	Planting Altitude in feet[2]	Native Colorado Life Zone[3]	Moisture[4]	Evergreen/ Deciduous	Comments[5]
Small - Medium Trees (10 - 45 ft when mature)						
Juniperus scopulorum	Rocky Mountain juniper	4,000 - 8,000	Foothills - Montane	L	E	Variable growth habit, often upright to columnar; male and female flowers on separate plants; found on dry mountain slopes and mesas; berry-like fruits are important food for small mammals and birds.
Pinus aristata	bristlecone pine	5,000 - 11,000	Montane - Subalpine	L - M	E	Rounded to pyramidal shape; branches have bottlebrush appearance; short, dark green needles with specks of white resin; spiny cones; needs well-drained soil; slow-growing.
Pinus edulis	piñon, pinyon pine	4,000 - 7,500	Foothills - Montane, Upper Sonoran	L	E	Compact, bushy tree with grayish-green needles in bundles of two; small rounded cones; edible seeds develop when planted in grove for cross-pollination; best in dry, well-drained site.
Populus tremuloides	quaking aspen	4,000 - 10,000	Foothills - Subalpine	H	D	Leaves flutter in slight breeze; short-lived, suckers; best in well-drained mountain soils.
Quercus gambelii	Gambel oak, scrub oak	4,000 - 8,500	Foothills - Montane	L - M	D	Shades of red, orange, yellow, and brown in fall; acorns provide excellent wildlife food.
Salix amygdaloides	peachleaf willow	3,500 - 7,000	Plains - Foothills, Upper Sonoran	H	D	Fast-growing; lance-shaped leaves; new twig growth orange-yellow; ascending branches; found along streams.

[1] As commonly sold in the trade. For equivalents, see botanical publications.

[2] Planting altitudes are estimates of where plants may be successfully grown as landscape plants. In many cases, species may be successfully planted at a lower zone with supplemental irrigation or a higher zone with protection.

[3] Approximate life zone elevations: Plains - below 5,500 ft. in eastern CO; Upper Sonoran - below 7,000 ft. in western CO and below 8,000 ft. in San Luis Valley; Foothills - 5,500 - 8,000 ft.; Montane - 8,000 - 9,500 ft.; Subalpine - 9,500 - 11,500 ft.; Alpine - above 11,500 ft. Species requiring medium to high moisture occur along watercourses throughout all zones. For simplicity, life zones were taken from *Grassland to Glacier* by Mutel and Emerick, first edition, 1984. For a more detailed treatment of Colorado ecosystems, see second edition, 1992.

[3a] Native to Western Slope; [3b] Native to Eastern Slope

[4] Moisture Requirement: L - Low, M - Moderate, H - High

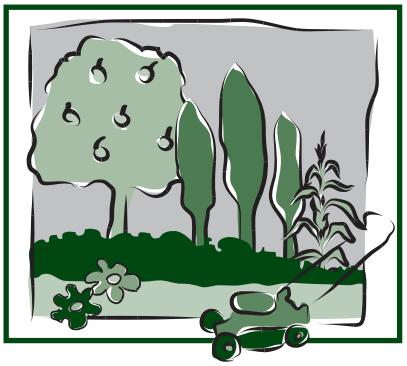
[5] Except where noted, plants prefer full sun.

Colorado State University Extension

Native Shrubs for Colorado Landscapes

Fact Sheet No. **7.422** Gardening Series | **Trees and Shrubs**

by J. Klett, B. Fahey and R. Cox*



Why Grow Native Shrubs?

There are many benefits to using Colorado native shrubs for home and commercial landscapes. Colorado native shrubs are naturally adapted to their specific Colorado climate, soils, and environmental conditions. When correctly sited, they can be ideal plants for a sustainable landscape that requires reduced external inputs such as watering, fertilizing, and pruning. In order to realize these benefits, the planting site must approximate the natural environmental conditions of the plant in its native habitat.

Another benefit of using Colorado natives in landscapes is that they may attract a wide variety of wildlife including mammals, birds, and butterflies. Rapid urbanization in the state is reducing biodiversity as habitat is removed for building and road construction. Landscaping with natives on a large or small scale can maintain biodiversity that otherwise could be lost to development.

The shrubs listed in Table 1 are grown by some Colorado nurseries and are becoming more available in the commercial sector. However, not all shrubs listed are available at all nurseries, so it may be necessary to contact a number of commercial outlets to find a specific plant. If a shrub is not sold in the trade, asking for it may help increase its availability. Native shrubs should not be collected from the wild because this reduces biodiversity and causes a disturbed area that may be invaded by weeds.

Most of the shrubs listed in Table 1 are available as container-grown plants. Native shrubs often do not have as great a visual impact in the container or immediately after planting as do traditional horticultural species. Over time, they will reward the homeowner with their natural beauty and other benefits.

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Figure 1: Mountain-mahogany fruit (*Cerocarpus montanus*)

Where To Grow Native Shrubs

There are several factors to consider in designing a native landscape. Due to Colorado's wide variation of elevation and topography, native plants are found in a variety of habitats. In order to maximize survival with minimal external inputs, plants should be selected to match the site's life zone and the plant's moisture, light, and soil requirements. Even if a plant is listed for a particular life zone, the aspect (north, south, east or west facing) of the proposed site should match the moisture requirement. For example, a red twig dogwood, which has a high moisture requirement, should not be sited with plants of dissimilar water needs. Similarly, a red twig dogwood should not be planted on a south-facing slope, where a significant amount of additional moisture would be required.

Growing native shrubs does not exclude the use of adapted non-native plants. There are many non-native plants that are adapted to Colorado's climate and can be used in a native landscape as long as moisture, light, and soil requirements are similar. Even if a site has a non-native landscape that requires additional inputs (such as an irrigated landscape on the plains), dry land native plants can be used in non-irrigated pockets

Quick Facts

- A Colorado native shrub can be described as existing in Colorado prior to European settlement.
- Native plant communities make Colorado visually distinct from the eastern, southern or western United States.
- Native plant gardens are wildlife habitats and each plant contributes to the biodiversity of the state.
- Landscaping with natives on a large or small scale can maintain biodiversity that otherwise would be lost to development.

Figure 2: Golden currant (*Ribes aureum)*

Figure 3: Twinberry fruit (*Lonicera involucrata*)

Figure 4: Red-berried elder (*Sambucus racemosa)*

Figure 5: Wild rose (*Rosa woodsii)*

within the non-native landscape. These native "pocket gardens" can be located in areas such as parkways and next to hardscapes that are difficult to irrigate.

Some communities regulate landscape appearance or the type of plants which may be used. So before completing a landscape design, check with local authorities, including homeowner's associations, to discover any regulations that may affect your design.

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The Foothills life zone occurs from 5,500 to 8,000 feet and is dominated by dry land shrubs such as Gambel oak and mountain-mahogany, and, in southern and western Colorado, piñon-juniper woodlands and sagebrush. The Montane zone consists of ponderosa pine, Douglas-fir, lodgepole pine, and aspen woodlands at elevations of 8,000 to 9,500 feet. Dense forests of Subalpine fir and Engelmann spruce dominate the Subalpine zone at 9,500 to 11,500 feet. The Alpine zone above 11,500 feet is a treeless zone made up of grasslands called tundra. Species requiring medium to high moisture occur along watercourses throughout all zones.

Culture and Maintenance

Successful establishment of native shrubs may require supplemental moisture after planting. Once established, the watering frequency can be reduced or even eliminated if the plant was sited in its native environmental conditions. Container-grown shrubs can be planted at any time during the growing season. Container-grown native shrubs are often grown in a soiless mixture of peat and bark, so the planting site should be amended with some organic material.

Using native shrubs offers many benefits in addition to reduced maintenance. Natives are part of our natural heritage and the ecosystems of Colorado. Native plant communities make Colorado visually distinct from the eastern, southern or western United States. Native plant gardens are wildlife habitats and each plant contributes to the biodiversity of the state.

Figure 6: Western chokecherry (*Prunus virginiana melanocarpa)*

Figure 7: Wax currant (*Ribes cereum)*

Figure 8: Waxflower (*Jamesia americana)*

Figure 9: Serviceberry (*Amelanchier alnifolia)*

Table 1. Native shrubs for Colorado landscapes.

Scientific Name[1]	Common Name(s)	Planting Altitude in feet[2]	Native Colorado Life Zone[3]	Moisture[4]	Evergreen/ Deciduous	Comments[5]
Large shrubs (6 - 10 ft when mature)						
Acer glabrum	Rocky Mountain maple	5,000 - 10,500	Foothills - Montane	L - M	D	Small, rounded tree to large shrub; usually multi-stemmed; smooth, gray branches with red buds; fall foliage yellow; shade tolerant.
Amelanchier alnifolia	serviceberry	5,000 - 10,000	Foothills - Subalpine	L - M	D	Upright to spreading branches; small, rounded leaves; clusters of small white flowers; blue-black fruit attractive to wildlife; orange to red fall color.
Cercocarpus ledifolius	curl-leaf mountain-mahogany	4,500 - 9,000	Upper Sonoran[3a]	L - M	E	Thick, dark evergreen leaves curl during drought conditions; feathery, attractive seed heads; irregular growth habit; large shrub to small tree.
Cercocarpus montanus	mountain-mahogany	4,000 - 8,500	Foothills - Montane	L - M	D	Open growth habit; feathery, attractive seed heads; wedge-shaped leaves.
Cornus sericea *Cornus stolonifera*	red twig dogwood; red-osier dogwood	4,500 - 10,000	Plains - Montane	M - H	D	Red stems in winter; flat, white flower clusters followed by white to blue fruits attractive to birds; yellow to red fall color; streamside understory plant; shade tolerant.
Forestiera neomexicana	New Mexico privet	4,500 - 7,500	Upper Sonoran[3a]	L	D	Large shrub to small tree; dense, grayish-green foliage; yellow flowers before leaves; blue-black fruit on females; light tan bark; yellow fall color; good for screening.
Fraxinus anomala	single-leaf ash	4,500 - 6,000	Upper Sonoran[3a]	L - M	D	Large shrub or small tree, often multi-stemmed; found in dry canyons in southwest CO; yellow fall color; less available.
Prunus americana	American plum, wild plum	4,500 - 8,500	Plains - Foothills	L - M	D	Thicket-forming; white flowers before leaves; fruit good for preserves; attracts wildlife; cold and drought tolerant; yellow to red fall color; found along canyons and slope bottoms.
Prunus pensylvanica	pin cherry	5,000 - 8,000	Foothills[3b]	M	D	Large shrub to small tree; thicket-forming; shiny, green leaves; red, edible fruit; shade tolerant; white flowers; red fall color.
Prunus virginiana melanocarpa	Western chokecherry	4,500 - 8,500	Plains - Montane, Upper Sonoran	M	D	Irregular, branching shrub with shiny, dark green leaves and elongated flower clusters; suckers to form thickets; dark purple fruit excellent for preserves; reddish-orange to yellow fall color.
Ptelea trifoliata	hop tree, wafer-ash	4,000 - 6,500	Plains - Foothills[3b]	M - H	D	Shrub or small tree with three-parted foliage; drought and shade tolerant; small, fragrant flowers; yellow fall color; persistent hop-like fruit.
Quercus undulata	wavyleaf oak	4,000 - 6,500	Foothills[3b]	L	D - E	Blue-green, leathery leaves with wavy edges; leaves persist in winter; coarse bark; native to southeast CO; less available.
Rhamnus smithii leaves;	Smith buckthorn	5,000 - 7,500	Foothills[3a]	L - M	D	Upright habit with dark green, shiny black fruit in late summer on female plants; yellow fall color; good screen plant; Plant Select®[5a].
Rhus glabra	smooth sumac	4,000 - 8,000	Plains - Foothills, Upper Sonoran	L - M	D	Open, rounded thicket-forming shrub; bright green leaves; pyramidal clusters of yellow flowers produce fuzzy, dark red fruits in fall that persist into winter; outstanding yellow-orange-red fall color.
Salix exigua	sandbar willow	4,000 - 9,000	Plains - Foothills, Upper Sonoran	H	D	Thicket-forming; gray-green narrow leaves; salinity tolerant; yellowish-gray catkins before leaves; yellow fall color.
Salix monticola	Rocky Mountain willow, yellow mountain willow	6,000 - 10,500	Montane	H	D	Broad, rounded shrub; narrow, deep green leaves, yellow fall color; arching yellow twigs attractive in winter; common streamside willow found in mountain areas.
Shepherdia argentea	silver buffaloberry	4,500 - 7,500	Plains - Foothills, Upper Sonoran	L - M	D	Medium shrub to small tree; thicket-forming; silver, rounded leaves; golden to red, edible, bitter fruits on females; attracts wildlife.
Sorbus scopulina	native mountain-ash	6,000 - 10,000	Foothills - Subalpine	M	D	Large shrub to small tree with divided leaves; white flower clusters followed by orange fruit; attractive to wildlife; orange to red fall color; found in moist sites on slopes in rocky canyons.

Table 1 (cont.). Native shrubs for Colorado landscapes.

Scientific Name[1]	Common Name(s)	Planting Altitude in feet[2]	Native Colorado Life Zone[3]	Moisture[4]	Evergreen/ Deciduous	Comments[5]
Medium shrubs (4 - 6 ft when mature)						
Amorpha fruticosa	false indigo, leadplant	3,500 - 6,000	Plains[3b]	L	D	Open, wide-spreading shrub; feathery, green foliage; spikes of deep blue flowers in summer; yellow fall color; deer resistant.
Artemisia tridentata	big sagebrush	4,500 - 9,500	Upper Sonoran	L	E	Silver-colored evergreen with peeling grayish bark; leaves densely hairy and aromatic; wildlife browse plant; does not tolerate high moisture.
Betula glandulosa	bog birch	5,000 - 11,000	Subalpine	H	D	Globe-shaped shrub with small, rounded dark green leaves on reddish-brown erect stems; yellow to red fall color; better at higher altitudes.
Cowania mexicana	cliffrose	4,000 - 7,500	Upper Sonoran[3a]	L	E	Upright oval shrub; rigid, gnarled branches; small, lobed olive-green leaves; fragrant, cream-colored flowers followed by feather-tailed seeds.
Fallugia paradoxa	Apache plume	3,500 - 8,000	Plains, Upper Sonoran[3b]	L	D - E	Open, rounded shrub; small, grayish-green leaves; whitish, shreddy bark; white, rose-like flowers; fuzzy, pink seed heads appear all summer; native to San Luis and Arkansas Valleys; Plant Select®[5a].
Fendlera rupicola	cliff fendlerbush	4,000 - 8,000	Upper Sonoran[3a]	L	D	Small, grayish-green, narrow leaves with edges rolled under; white to pink flowers; reddish-tan bark; less available.
Holodiscus dumosus	rock-spirea, mountainspray	5,000 - 10,000	Foothills - Montane	L - M	D	Upright shrub; arching, slender branches with pyramidal sprays of white flower clusters that turn rust; fall foliage colored bronze-red; sun to partial shade; found on rock outcrops and cliff bases.
Rhus trilobata	three-leaf sumac, skunkbrush	3,500 - 9,000	Plains - Foothills, Upper Sonoran	L	D	Arching branches with glossy, green, three-parted leaves; small yellow flowers before leaves; reddish, hairy, edible fruits; orange to red fall color.
Ribes aureum	golden currant	4,000 - 10,000	Plains - Foothills, Upper Sonoran	L - M	D	Arching growth habit; yellow, clove-scented flowers in late spring; yellow to black fruit attracts birds; well-drained sites; orange to red fall color.
Ribes inerme	whitestem currant	6,000 - 10,000	Foothills - Montane	M	D	Rounded growth habit; few if any spines; whitish stems becoming reddish-brown and flaky; small, pink flowers followed by edible, tart, wine-red fruit.
Ribes lacustre leaves;	bristly currant, swamp currant	8,000 - 10,000	Montane - Subalpine	H	D	Low-growing shrub with spines; lobed greenish-purple flowers in drooping clusters followed by bristly, purple fruit; native along streams; browse plant for livestock and game.
Rubus deliciosus	boulder raspberry	4,500 - 9,000	Foothills	L - M	D	Arching growth habit with peeling, cinnamon colored bark; shade tolerant; spineless; large, white, rose-like flowers in spring followed by sparse raspberry-like fruits.
Rubus parviflorus	western thimbleberry	5,000 - 10,000	Montane	M - H	D	Large, maple-like leaves; white, rose-like flowers followed by edible fruits; best in shady, moist locations.
Salix irrorata	bluestem willow	5,000 - 9,000	Foothills	H	D	Rounded, upright shrub; spreading silver-blue twigs; glossy green linear leaves; yellow fall color.
Sambucus racemosa	red-berried elder	5,000 - 12,000	Foothills - Subalpine	M - H	D	Upright to arching growth form; shiny compound leaves; stout branches; white flower clusters in early summer followed by bright red berries; yellow fall color; found along streams; attracts birds.

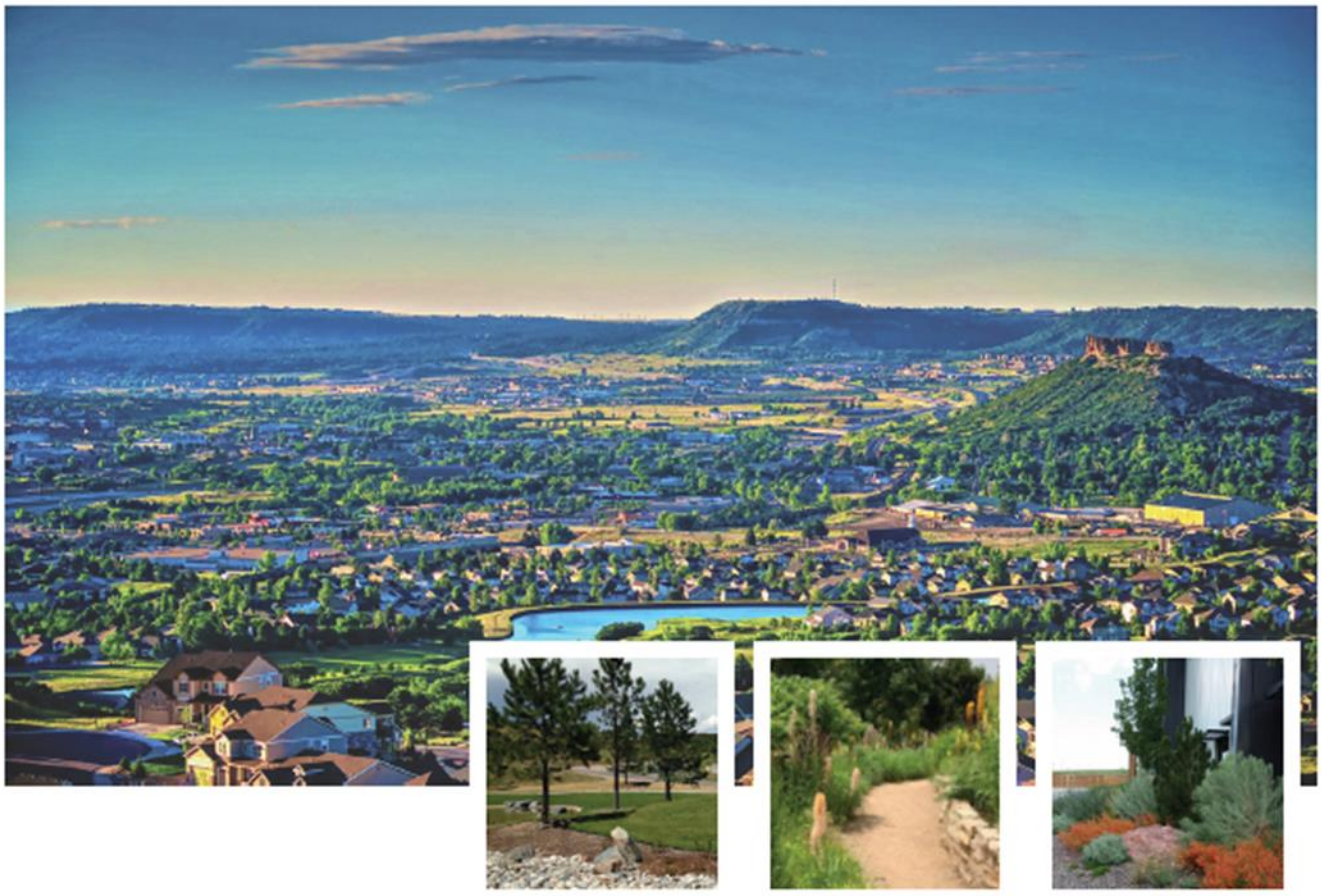
Table 1 (cont.). Native shrubs for Colorado landscapes.

Scientific Name[1]	Common Name(s)	Planting Altitude in feet[2]	Native Colorado Life Zone[3]	Moisture[4]	Evergreen/ Deciduous	Comments[5]
		Small shrubs (less than 4 ft when mature)				
Amorpha canescens	silvery leadplant	3,500 - 7,500	Plains - Foothills[3b]	L	D	Erect, dense shrub with gray-green, fern-like foliage; tall spikes of violet-purple flowers in midsummer; tolerates drought and poor soils.
Arctostaphylos patula	manzanita, bearberry	6,000 - 9,000	Foothills - Montane[3a]	L	E	Spreading growth habit with dense foliage; mahogany-red stems; oval, bright green erect leaves; pink flowers in spring followed by dark brown, small apple-like fruits; does best on well drained soils.
Arctostaphylos uva-ursi	kinnikinnik	5,000 - 10,000	Foothills - Subalpine	L - M	E	Mat-forming evergreen with small oval leaves; pink urn-shaped flowers followed by red fruits; requires well-drained gravelly soils; attracts wildlife; needs light shade.
Artemisia cana	silver sagebrush	5,000 - 10,000	Montane	L - M	E	Mounding growth habit; branches become gnarled; aromatic, silver-gray leaves.
Atriplex canescens	fourwing saltbush	4,000 - 8,000	Plains, Upper Sonoran	L	D - E	Light green to gray small leaves; interesting four-winged fruits on female plants; tolerates poor or salty soils; slow-growing.
Ceanothus fendleri	Fendler ceanothus, mountain-lilac	5,000 - 9,000	Foothills - Montane	L	D	Spiny, low shrub with small, white flower clusters in late spring; wildlife browse plant; grows on coarse soils; less available.
Ceratoides lanata	winterfat	3,500 - 9,500	Plains, Upper Sonoran	L	D - E	Dense, erect shrub covered with white woolly fruits; grayish-green leaves persist in winter; excellent forage for wildlife.
Chrysothamnus nauseosus	rabbitbrush, rubber rabbitbrush	5,000 - 10,000	Plains - Foothills, Upper Sonoran	L	D	Size and growth habit varies with subspecies; narrow aromatic leaves; young stems green to silvery-gray; showy clusters of yellow flowers on new growth in late summer attract butterflies; can be aggressive.
Jamesia americana	waxflower	5,500 - 10,000	Foothills - Montane	M	D	Flat-topped shrub with upright branches; distinctly veined heart-shaped leaves with white undersides; shreddy, reddish bark; waxy, white flowers in late spring; red fall color; shade tolerant; needs well-drained soil.
Juniperus communis montana	common juniper	5,000 -10,000	Foothills - Subalpine	L - M	E	Low-growing; needle-like leaves with whitish stripes; bluish-gray, berry-like fruit; shade tolerant; needs well-drained soil.
Lonicera involucrata	twinberry	5,000 - 11,000	Montane - Subalpine	M - H	D	Shade-tolerant upright oval shrub with erect branches; bright green leaves; creamy yellow trumpet-shaped flowers in pairs followed by black fruit enclosed in a red cup.
Mahonia repens	creeping Oregon grape-holly	5,000 - 9,500	Foothills - Montane	L - M	E	Low-growing; thicket-forming ground cover; blue-green leaves turn purplish in winter; yellow flowers followed by edible, blue grape-like fruit; shade tolerant; may winter burn in windy, exposed sites.
Philadelphus microphyllus	littleleaf mock-orange	5,000 - 8,000	Foothills, Upper Sonoran	L - M	D	Rounded, compact slow-growing shrub with small gray-green leaves; fragrant white star-shaped flowers.
Physocarpus monogynus	mountain ninebark	5,500 - 10,000	Foothills - Montane	M	D	Interesting shreddy bark on older branches; white to rose-colored flowers in small heads; good wildlife cover; leaves resemble currant; yellow to maroon fall color; less available.
Potentilla fruticosa	shrubby cinquefoil	5,000 - 11,000	Montane - Subalpine	M	D	Open, rounded shrub; single yellow flowers throughout summer; many cultivated forms available from nurseries.
Prunus besseyi cherry	Western sand	3,500 - 8,500	Plains - Foothills[3b]	L - M	D	Upright, rounded open shrub with grayish-green leaves; numerous white, single, fragrant flowers followed by purplish-black fruits that attract birds; red fall color. 'Pawnee Buttes' is a low, spreading groundcover; Plant Select®[5a].
Purshia tridentata	antelope bitterbrush, antelope-brush	5,000 - 9,000	Foothills - Montane	L	D	Spreading shrub with small, oval gray leaves and pale-yellow flowers in early summer; requires dry, coarse soils; important browse plant for wildlife.
Ribes cereum	wax currant	4,000 - 10,000	Foothills	L	D	Rounded growth form; lobed, leathery leaves; lacks spines; pink tubular flowers in spring; edible orange-red berries in summer attract birds.

Table 1 (cont.). Native shrubs for Colorado landscapes.

Scientific Name[1]	Common Name(s)	Planting Altitude in feet[2]	Native Colorado Life Zone[3]	Moisture[4]	Evergreen/ Deciduous	Comments[5]
Rosa woodsii	Woods rose, wild rose	3,500 -10,500	Foothills - Subalpine	L - M	D	Spiny, dark reddish-brown stems; thicket-forming; dark green, compound leaf; single, large pink flowers in early summer; reddish-orange fruits; browse plant for wildlife.
Shepherdia canadensis	russet buffaloberry	5,000 -11,500	Montane - Subalpine	M	D	Prostrate to upright shrub; brown, thornless branches; dark green, oval leaves with russet-colored scales beneath; inconspicuous flowers followed by red to orange bitter fruit on females; attractive to wildlife; shade tolerant.
Symphoricarpos albus	snowberry	5,000 - 8,500	Foothills	L - M	D	Arching growth habit; thicket-forming; rounded, blue-green leaves; shade tolerant; pink, bell-shaped flowers in summer; large white berries in fall persist into winter; attracts birds and small mammals.

[1] As commonly sold in the trade. For equivalents, see botanical publications.
[2] Planting altitudes are estimates of where plants may be successfully grown as landscape plants. In many cases, species may be successfully planted at a lower zone with supplemental irrigation or a higher zone with protection.
[3] Approximate life zone elevations: Plains - below 5,500 ft. in eastern CO; Upper Sonoran - below 7,000 ft. in western CO and below 8,000 ft. in San Luis Valley; Foothills - 5,500 - 8,000 ft.; Montane - 8,000 - 9,500 ft.; Subalpine - 9,500 - 11,500 ft.; Alpine - above 11,500 ft. Species requiring medium to high moisture occur along watercourses throughout all zones. For simplicity, life zones were taken from *Grassland to Glacier* by Mutel and Emerick, first edition, 1984. For a more detailed treatment of Colorado ecosystems, see second edition, 1992.
[3a]Native to Western Slope; [3b]Native to Eastern Slope.
[4] Moisture Requirement: L - Low, M - Moderate, H - High.
[5] Except where noted, plants prefer full sun.
[5a] Plant Select is a cooperative program of Colorado State University, Denver Botanic Gardens and the Green Industry with the purpose of introducing the very best plants for gardens from the High Plains and beyond.



TOWN OF CASTLE ROCK

Landscape and Irrigation Criteria Manual

April 1, 2021

TOWN OF CASTLE ROCK
COLORADO
100 N. Wilcox St. / Castle Rock, CO 80104

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Contents

Section 1: General Provisions

These performance standards, Criteria, and regulations, together with all future amendments, shall be known as the Town of Castle Rock Landscape and Irrigation Criteria Manual (hereafter called the "Criteria"). All landscape and irrigation design, installation, and maintenance performed as a requirement of the Castle Rock Municipal Code, Town of Castle Rock Development Procedures Manual, the Building and Construction Code, and any other code, policy, or criteria adopted by the Town of Castle Rock, shall comply with these Criteria.

All new or qualifying renovated landscaping within the Town limits, including remodels requiring an irrigation, building, or plumbing permit which change irrigation demands or water quality control, shall comply with these Criteria. It is the purpose and intent of these Criteria to establish landscape and irrigation performance standards and criteria that will reflect Town identity and the desire of the community, as expressed through the Town's Vision and Comprehensive Master Plan, and that will:

Promote water conservation

- Demonstrate and recognize the need to invest future water and other resources as efficiently as possible
- Assist in reducing the overall per capita use of water within the Town's service area
- Reduce peak summer water usage
- Reduce or eliminate outdoor water waste
- Assist with water budget rate structure compliance
- Promote the conservation of water supplies through the use of landscape and irrigation design and materials that can have a beneficial effect upon water conservation

Encourage appropriate use of materials

- Promote the values and benefits of natural and indigenous landscapes for new landscape projects within the Town's service area
- Provide for the protection of and implementation of native vegetation
- Promote the conservation of energy resources through the use of landscape design and material that can have a beneficial effect upon energy conservation

Increase public safety

- Increase street safety by reducing or eliminating the potential of water and ice on all paved surfaces resulting from irrigation-related water waste
- Reduce damage to publicly owned streets caused by irrigation-related water waste
- Increase awareness of defensible space for fire mitigation

Facilitate successful projects

- Establish a procedure for designing, installing, and maintaining water efficient landscapes in new projects
- Establish a regulatory framework for the administration of landscape and irrigation design, plan review, installation, inspection, and maintenance

Section 1: General Provisions

1.1 GOVERNING REGULATIONS

Unless the Town expressly approves a specific technical criteria variance or deviation, these Criteria and all applicable secondary codes shall govern in all cases where plans or approvals are required.

The Town of Castle Rock makes every attempt to provide a thorough and accurate landscape and irrigation plan review and inspection. In the event an item or items are missed in plan review or during inspections, it does not release the applicant or permit holder from meeting all requirements as identified in the Landscape and Irrigation Criteria Manual, the Water Use Management Plan, or Municipal Code.

1.2 JURISDICTION

These Criteria shall apply to all public and private lands located within or served by the Town of Castle Rock, including:

1. New development or construction
2. Currently approved development plans which are changed by amendments subsequent to the effective date of this document
3. Any change of land use and conversion of land, whether residential or non-residential, public or private
4. When conditions exist for joint or multiple land uses concurrent on a single site or development property, landscaping that is most consistent with the primary, prescriptive land use shall apply
5. Projects which impact twenty-five (25) percent or greater of landscaped area associated with a single water service connection (one tap)
6. Projects which impact ten-thousand (10,000) square feet or greater of landscaped area associated with one or more service connection (one or more taps)
7. Irrigation maintenance: Through the course of routine maintenance, all replacement irrigation equipment shall meet current Criteria

These Criteria shall govern over privately enforced guidelines or requirements related to landscaping and irrigation (i.e. business association, metropolitan district, homeowner association design guidelines, regulations and requirements, etc.)

1.3 PURPOSE

Presented in these Criteria are the policies, procedures, performance standards, and minimum criteria for the design, installation, and maintenance of landscaping and irrigation within the Town's service area. These Criteria provide comprehensive water efficient design, installation, and maintenance standards for landscaping and irrigation within the Town's service area in a manner that balances quality of life and social awareness with the overall responsibilities of the Town as the water provider.

All landscaping and irrigation submitted for approval under the provisions of these Criteria shall include appropriate landscape and irrigation planning, analysis, and design. Such planning, analysis, and design shall conform with or exceed these Criteria.

1.4 AMENDMENT

The performance standards and criteria may be amended as new technology or other industry related best management practices are developed, or if experience gained in the use and application of these Criteria indicates a need for revision. Minor revisions will require the approval of the Director of Castle Rock Water.

All major revisions will require Town Council adoption, by Resolution, following a Public Hearing thereon. The Director of Castle Rock Water, or designee thereof, shall monitor the performance and effectiveness of these Criteria and will recommend amendments and revisions as necessary.

1.5 ENFORCEMENT RESPONSIBLITY

The Town shall review all landscape, irrigation, and maintenance reports, plans, analysis, design, and installations for compliance with these Criteria. The Criteria are enforced by the Town or authorized representative.

1.6 REVIEW AND APPROVAL

The Town shall review all submittals for general compliance with these Criteria. An approval by the Town does not relieve the owner, designer, installer, or maintenance contractor from the responsibility of ensuring the design, plans, specifications, construction, maintenance, and record drawings are in compliance with these Criteria.

1.7 INTERPRETATION

The following shall govern the interpretation and application for the provisions of the Criteria:

1. These provisions shall be regarded as the minimum requirements and performance standards for design, installation, and maintenance of landscape and irrigation.
2. Whenever a provision of these Criteria and any other provision of the Town of Castle Rock Municipal Code or any provision in any law, ordinance, resolution, rule or regulation of any kind, contains any requirements covering any of the same subject matter, the requirements that are more restrictive or impose higher standards shall govern. In the event that there is a discrepancy in the interpretation of these Criteria, the Director of Castle Rock Water, or designee thereof, shall make the final determination of the intent of these Criteria.
3. These Criteria shall not abrogate or annul any binding agreements, issued permits, or approved landscape and irrigation construction plans, either recorded or approved by the Town, prior to the effective date of these Criteria.

1.8 RELATIONSHIP TO OTHER CRITERIA

If the State, Federal government, or other applicable regulatory agency imposes stricter criteria, standards, or requirements than those contained herein, such provisions shall apply, and shall be subsequently incorporated into the Town's requirements after due process and public hearing(s) to modify the Town's regulations and these Criteria.

1.9 DEVIATION AND VARIANCE

Refer to the Town Development Procedures Manual for information regarding deviations and technical criteria variances to the Criteria.

1.10 SUPPLEMENTAL INFORMATION TO THESE CRITERIA

Supplemental information, forms, checklists, notes, etc., listed below, are available on the Town of Castle Rock website (CRgov.com) and shall be referenced or submitted in accordance with the requirements set forth in these Criteria. Contact the Director of Castle Rock Water, or designee thereof, with any questions regarding the downloading of these files. It is the responsibility of the owner / applicant and designer, installer, or maintenance contractor to obtain the latest version of any submitted document, as the Town will periodically update these items.

1. Checklists and Forms
2. Composite Landscape Water Use Rating Chart (CLWUR)
3. Contact List
4. Drawing Submittal Requirements
5. Electronic Data Submittal Layer Requirements
6. General Construction Drawing Cover Sheet Notes
7. Overlay Districts (Municipal Code Chapter 17)
8. Record Drawing Checklists
9. Signature Block
10. Site Development Plan General Notes
11. Standard Construction Notes
12. Standard Details
13. Technical Criteria Variance Request Form
14. Temporary Irrigation Criteria
15. Town of Castle Rock Approved Plant List

1.11 VIOLATIONS AND PENALTIES

Refer to the Castle Rock Municipal Code for information regarding violations and penalties.

1.12 ACRONYMS

As used in the Town's Landscape and Irrigation Criteria Manual, the following acronyms shall apply:

BMP, BMPs	Best Management Practice(s)
CD, CDs	Construction Document(s)
CLWUR	Composite Landscape Water Use Rating
CO	Certificate of Occupancy
ET	Evapotranspiration
FPS	Feet per Second, referencing velocity Gallons per Minute (GPM)

IA	Irrigation Association
K	Potassium
LWUR	Landscape Water Use Rating
N	Nitrogen
P	Phosphorus
PD	Planned Development
PDP	Planned Development Plan
PLA	Professional Landscape Architect
PRV	Pressure Regulating Valve
PSI	Pounds per Square Inch
QWEL	Qualified Water Efficient Landscaper
RLP	Registered Landscape Professional
ROW	Right-of-way
RP, RPA	Reduced Pressure Principle Assembly
SDI	Subsurface Drip Irrigation
SDP	Site Development Plan
SDT	Sight Distance Triangle
TCO	Temporary Certificate of Occupancy
TCR, TOCR	Town of Castle Rock
TESC	Temporary Erosion and Sediment Control
WEP	Water Efficiency Plan

1.13 DEFINITIONS OF TERMS

ACTIVE PARK: A public common area with an active/programmable sports field.

ALTERNATIVE TURF: Grasses cultivated in very close proximity, to form a living surface at the ground plane, generally intended to be mowed regularly, forming a dense growth of leaf blades and roots, including grasses other than bluegrass or bluegrass blends. These may include fescue hybrids, blue grama, and buffalo grasses propagated as turf.

ANNUAL: A type of plant material, typically flowers, that require replanting each season.

APPLICANT: The individual or organization applying for land use or permitting action.

APPLICATION RATE: The amount and frequency water is applied to landscaping by the irrigation system, usually measured in inches per hour.

ARTIFICIAL TURF: A non-living material typically used in lieu of a living turf / lawn. The appearance mimics a green, living turf during the growing season.

AS-BUILT DRAWINGS: The approved Town of Castle Rock stamped landscape and irrigation construction plans updated with any changes or deviations. Final disposition, location, with dimensions of the installed landscape and irrigation equipment shall be shown on as-built drawing.

BACKFLOW PREVENTION ASSEMBLY: A mechanical device installed at the beginning of the irrigation system to prevent a reverse water flow and contamination of the potable water supply.

BERM: An earthen mound intended for visual interest or screening of undesirable views. A berm is effective in buffering between differing land uses and reducing noise. The maximum slope of berms shall not exceed 4:1 (twenty-five (25) percent).

BLUEGRASS: Any grass of the genus Poa, having dense tufts of bluish-green blades and creeping rhizomes. Examples include, but are not limited to: Kentucky bluegrass, Poa pratensis and Canada bluegrass, Poa compressa.

CALIPER: The measurement in diameter of a tree trunk measured six (6) inches above the ground for trees up to four (4) inch size and twelve (12) inches above the ground for larger sizes.

CERTIFIED IRRIGATION AUDITOR: A person who has successfully completed formal training, certification, licensing, or other similar qualifications by the Irrigation Association or Qualified Water Efficient Landscaper (QWEL) to perform irrigation audits.

CHECK VALVE: A device that prevents a reverse water flow in pipes and sprinkler heads, commonly used in sprinkler heads or emitter systems to prevent low head drainage.

COLORADOSCAPE: A natural landscape which uses low to very low water (less than ten (10) inches of water per year) plant material which blends in with the native Castle Rock landscapes. Plant material must be maintained in its natural form, utilizing a combination of hardscape and landscape materials which provide a variety of colors, textures, sizes, shapes and seasonal interest.

COMMON AREA: Land area within a development, intended for joint, private or public, ownership and use, including pocket parks, passive parks, and active parks. These areas are often maintained by a homeowner's association, business association, or in some instances, the Town. Pocket parks, passive use areas, and active parks are considered a common area for the purposes of these standards and Criteria.

COMPOSITE LANDSCAPE WATER USE RATING (CLWUR): The area of weighted average of the landscape water use ratings for all landscape zones within a project or the Town as a whole. It is defined as the sum of the products of the landscape water use rating and the irrigated area (in square feet) for each landscape zone divided by the total area of all zones. The composite landscape water use rating is expressed by the following formula:

Formula CLWUR = $\Sigma^{N}_{k=1}$ $LWUR_k * IA_k / TA$
Where CLWUR = Composite landscape water use rating $LWUR_k$ = Landscape water use rating for each landscape zone IA_k = Irrigated area (in square feet) for each landscape zone
TA = Total area (in square feet) for all landscape zones included in the composite

The composite landscape water use rating is computed for a project using all landscape zones shown on the landscape design and management plan. The composite rating is computed using all zones for all irrigated public areas within the Town's service area. Non-irrigated native seed areas are not included in CLWUR calculations. See the Town website at CRgov.com for the CLWUR chart for the Town of Castle Rock Municipal Code 13.20.030.

COMPOST: Fully finished, stabilized, and mature product, derived from organic materials such as leaves, grass clippings, wood chips, and other yard wastes. Finished compost is dark and crumbly, does not resemble the original contents, and has an earthy smell. Acceptable compost will not contain any human or animal waste.

CONIFEROUS: A tree or shrub that bears cones and evergreen foliage.

CONTROLLER: An electric timing device that operates each zone of an irrigation system for a predetermined time and frequency.

CONTROL VALVE: Valves that turn water on and off to the individual zones of sprinklers or drip emitters.

COVERAGE: The extent of area where water is applied by sprinkler heads. This is used in the context of proper head spacing.

CROSS CONNECTION: Any point in a water distribution system where chemical, biological, or radiological contaminants may come into contact with potable water. During a backflow event, these contaminants can be drawn or pushed back into the potable water system. A backflow prevention device installed at every point of cross connection prevents contaminated water from entering the potable water distribution system.

CU-Structural Soil™ (U.S. Patent # 5,849,069): A two-part system comprised of a rigid stone "lattice" to meet engineering requirements for a load-bearing soil, and a quantity of soil, to meet tree requirements for root growth. The lattice of load-bearing stones provides stability as well as interconnected voids for root penetration, air and water movement.

CYCLE: An interval of time during which an irrigation system is operated for one sequence of a regularly recurring succession of watering events.

DECIDUOUS: A plant or tree with foliage that is shed annually.

DEVELOPED AREAS: Any area on which a site improvement or change is made including buildings, landscaping, parking, streets, and/or utilities.

DEVELOPER: Person, persons, or organization that is responsible for the development of land, buildings, and/or related improvements – often for the purpose of sale to a subsequent owner. The developer may be the property owner.

DOWNTOWN STREETSCAPE: A Combination of window boxes, planters, trees, shrubs, perennials, annuals, and groundcovers, as appropriate to enhance building entries and buffer street.

DRAIN VALVE: A valve used to drain an irrigation system for repairs or freeze protection.

DRIP EMITTER: A small irrigation device that emits a drop of water at very low pressure with flows measuring in gallons per hour.

DRIPLINE: An imaginary vertical line extending downward from the tips of the outermost branches of a tree or shrub to the ground.

DROUGHT: Periods or seasons with below average precipitation.

DROUGHT RESISTANT: A plant's ability to endure drought being unstressed and maintaining normal appearance and health, similar to drought avoidance.

DROUGHT TOLERANT: A plant's ability to withstand drought without dying.

DRYLAND SEED MIXTURE: A native seed mixture that does not require ongoing supplemental irrigation, but may benefit from temporary irrigation for establishment.

DWELLING: Any building or portion thereof which provides complete independent living facilities for a family or individual, including permanent provisions for living, sleeping, eating, cooking, and sanitation, but not including hotels, motels, tourist courts, clubs, hospitals, or similar uses.

DWELLING, MULTI-FAMILY: A building, or portion thereof, designed for occupancy by three or more families living independently of each other.

APARTMENT: A building containing three or more suites of rooms, with toilet and culinary accommodations, used or designed for use as a dwelling by a family or individual with shared areas and facilities.

CONDOMINIUM: A building containing three or more suites of rooms, with toilet and culinary accommodations, used or designed for use as a dwelling by a family or individual with shared areas and facilities. Each dwelling is individually owned and shared areas and facilities are commonly owned.

TOWNHOME: A building containing three or more dwellings, which is part of a structure in which each dwelling has a private entrance and each dwelling is attached horizontally, in a linear arrangement, and having a totally exposed front and rear wall to be used for access, light and ventilation.

DWELLING, TWO-FAMILY: A building designed exclusively for occupancy by two families, living independently of each other.

DUPLEX: A building containing two dwellings attached by a wall or floor.

PAIRED HOME: A building containing two dwellings attached by a wall.

SINGLE-FAMILY ATTACHED: A building containing two dwellings attached by a wall.

DWELLING, SINGLE-FAMILY: A building designed exclusively for occupancy by one family.

SINGLE-FAMILY DETACHED: A building containing one dwelling unit.

EASEMENT: The right to use lands owned by other parties for the purposes of maintenance, access, drainage, or other use, as specified in an agreement between parties.

ENTRY STREET: A main access to a subdivision.

ESTABLISHMENT IRRIGATION: Supplemental irrigation required during the establishment period.

ESTABLISHMENT PERIOD: The period of time required for a plant to seed, germinate and establish a healthy root system, which promotes long-term health and growth.

EVAPORATION: The change by which water is converted from a liquid to a vapor.

EVAPOTRANSPIRATION (ET): A calculation of water loss due to evaporation from the soil surface and transpiration through plant foliage.

EVERGREEN: A plant with foliage that persists and remains green year-round.

EVERGREEN TREES: A tree with foliage that persists and remains green year-round.

FABRIC: A porous geotextile material installed underneath mulch that is manufactured specifically to reduce the growth of weeds within planting bed areas. Also known as weed barrier.

FIELD CHANGE ORDER (FCO): Paperwork and justification for a change to landscape and/or irrigation construction documents once a project is under construction.

FINAL GRADE: The finished ground surface or contour after construction, prepared for plants.

FINAL PD SITE PLAN: Final Planned Development (PD) Site Plan and is the detailed development plan of a property which generally indicates the final planned use of the property, building and parking locations, building elevations, service connections, landscape and other site improvements. Now known as Site Development Plan (SDP).

FLOW SENSOR: A device that measures the rate of water flow in an irrigation system quantified in gallons per minute (GPM).

GALLONS PER MINUTE (GPM): The flow rate of water, volume for a period of time.

GOLF COURSE: The ground or course over which golf is played.

GROSS SITE AREA: The total square footage of the property associated with a development plan that includes landscape and/or irrigation installation and/or renovation.

GROUNDCOVER: Living plant material that grows low to the ground, usually under twelve-inches in height, often of a spreading nature.

GROWING SEASON: The five-month period of May through September.

HARDSCAPE: Non-living site improvements at the ground plane such as a building, pavement, walkways, and parking areas – including those of crushed stone, patios, decks, mulch area (exclusive of mulch area in shrub and perennial beds), and other similar improvements as determined by the Town. Hardscape area does not include artificial turf unless as otherwise approved in this document.

HEAT ISLAND EFFECT: An “island” of higher temperatures caused by changing surfaces from permeable to impermeable as a result of development. See the United States Environmental Protection Agency website at www.epa.gov for more information.

HEIGHT: for the purposes of these Criteria, is determined as typically measured by National Nursery Association Standards.

HIGH WATER USE: A plant material that requires over fifteen (15) inches of supplemental irrigation during each growing season (May through September).

HYDROZONE: Landscape, containing vegetation requiring similar water needs and exposure. For the purposes of this document, hydrozones are broken into four (4) categories:

VERY LOW HYDROZONE: Plant materials that require five-inches or less of supplemental water applied during the growing season. The plant materials within this zone are typically drought-tolerant natives. This hydrozone is designated by the letter "V" and has a landscape water use (LWU) rating of zero (0) to one and one half (1.5).

LOW HYDROZONE: Plant materials that require over five-inches and up to or equal to ten (10) inches of supplemental water applied during the growing season. This hydrozone shall be designated by the letter "L" and has a landscape water use (LWU) rating of greater than one and one half (1.5) and less than or equal to three (3.0.)

MODERATE HYDROZONE: Plant materials that require over ten (10) inches or up to or equal to fifteen (15) inches of supplemental water applied during the growing season. The plant materials within this zone are typically native hydrophilic or exotic species. This hydrozone is designated by the letter "M" and has a landscape water use (LWU) rating greater than three (3) and less than or equal to four and one half (4.5).

HIGH HYDROZONE: Plant materials that require over fifteen (15) inches of supplemental water applied during the growing season. The plant materials within this zone are intended for high-pedestrian traffic areas such as sports fields or community gathering spaces. Plant materials using up to nineteen (19) inches may be used in qualifying passive use common areas, with approval. There are limits to the amount of high water use plant materials that may be used on a single family residential property. The landscape water use (LWU) for high water use plant material is 4.5.

INORGANIC MATTER: A non-naturally occurring and/or manufactured product such as perlite, used to enhance the soil texture and/or water holding capacity of soils.

INTERFACE LANDSCAPING: Landscaping between changing land uses, such as between residential and commercial, residential and industrial, or dissimilar residential properties. Such areas shall require increased landscaping to create buffers between uses.

IRRIGABLE AREA: All pervious surfaces within the lot.

IRRIGATED AREA: The actual area covered by plant material at mature size and permanently installed irrigation.

IRRIGATED PUBLIC AREA: Land area that is not native or natural open space and in which healthy vegetative growth is maintained by the application of water through an irrigation system. Irrigated public areas shall include, but are not limited to, any and all irrigated areas associated with irrigated public lands and easements owned by the Town and/or any metropolitan district or homeowner's association within the Town. Irrigated public areas include public street entrances, parking lots, rights-of-way, public parks, and recreation areas, and all areas whether owned, maintained, or irrigated at public expense by the Town, metropolitan district, or homeowner's association.

IRRIGATION: An automatic, permanent or temporary, watering system designed to transport and distribute water to landscape plants.

IRRIGATION ASSOCIATION: A non-profit North American organization formed to improve the products and practices used to manage water resources and to help shape the business environment of the irrigation industry.

IRRIGATION AUDIT: A procedure to collect and present information concerning the uniformity of application, precipitation rate, and general condition of an irrigation system and its components. This procedure, according to the Irrigation Association includes a visual site inspection of the installed irrigation system for performance according to design criteria.

IRRIGATION DESIGN: Creation of a drawing and associated information depicting irrigation system components and details.

IRRIGATION EFFICIENCY: A quantitative measurement of distribution uniformity as determined through an irrigation audit.

IRRIGATION PLAN: A plan drawn to scale that indicates the irrigation components and their specifications as related to a specific landscape plan. This is a two-dimensional plan drawn to scale that shows the layout of irrigation components, specifications, and hydrozones.

IRRIGATION SEASON: The period during which supplemental irrigation is used to maintain plant health, for purposes of these Criteria shall mean May through September.

INVASIVE PLANT: Plant that is non-native and able to establish, growing quickly, and spreading to the point of disruption of plant communities and/or ecosystems.

LANDSCAPE: Any combination of living plants, such as trees, shrubs, vines, groundcovers, flowers and/or grass, natural features such as land and water forms, rock, stone, bark chips or shavings, and structural features including but not limited to fountains, pools, outdoor art work, walls, fences or benches.

LANDSCAPE ARCHITECT: A professional licensed to practice landscape architecture by the State of Colorado. Also referred to as a Professional Landscape Architect (PLA).

LANDSCAPE AREA: The area within a lot or property not comprised of hardscape, measured at the ground plane. Landscape area will not include bare dirt or weeds. Landscape area will consist of living groundcover, including turf or other groundcover, or shrub bed area which is permanently irrigated.

LANDSCAPE BUFFER: A landscape area intended to physically and visually separate one land use from another.

LANDSCAPE DESIGNER: A professional who has successfully completed formal study or training in the field of landscape design, culminating in either certification, licensing, or degree.

LANDSCAPE GRADING PLAN: A plan drawn to scale that shows the designed landscape gradient and elevation using one-foot or two-foot contour lines with numeric notation of elevations.

LANDSCAPE IMPROVEMENTS: All elements typically used or existing in the designed landscape such as, but not limited to, soil, compost, rock, plant material, edging, weed barrier, mulch, and irrigation system.

LANDSCAPE PLAN: A plan drawn to scale that shows the layout of all landscape components and their specifications for a development site.

LANDSCAPE PROFESSIONAL: A landscape or irrigation designer, installer, or maintenance contractor that possesses the qualifications associated with the specific discipline of landscape or irrigation design, installation, or maintenance of landscape and irrigation systems.

LANDSCAPE SETBACK: An area reserved for the primary use of landscaping measured by the horizontal distance between two points of reference. Oftentimes landscape setback area refers to a distance of landscape area located between the property line and a building, parking area or other hardscape. Sidewalks located within a landscape setback area will necessitate a corresponding increase in the setback.

LANDSCAPE WATER USE RATING: A numeric rating assigned to a landscape zone that represents the irrigation water requirement. The LWU rating is computed by dividing the irrigation water requirement (in inches) for the zone by five (5.0) and is expressed by the following formula:

Formula LWUR = IWR/5.0
Where LWUR = Landscape water use rating
IWR = Irrigation water requirement

The four (4) defined landscape zone types have LWU ratings within the following ranges:

Landscape Zone	LWU Rating Range
Very low water use	0.0 to 1.5
Low water use	+1.5 to 3.0
Moderate water use	+3.0 to 4.5
High water use	+4.5

LAND USE: The designation in these Criteria such as single-family, two-family, multi-family, non-residential, or other type of land use designation, as defined by the Town of Castle Rock in master planning and/or municipal code.

LARGE CANOPY DECIDUOUS SHADE TREE: A deciduous tree that has a mature height of greater than thirty-one (31) feet and provides shade.

LATERAL: Piping between the control valve and the sprinkler head.

LOW HEAD DRAINAGE: A situation where water drains partially or completely out of the lateral line through the sprinkler head after each irrigation cycle is complete. This causes water waste, and check valves should be used in heads to mitigate this situation.

LOW WATER USE PLANT MATERIAL: Plants that require more than five-inches and up to ten (10) inches of supplemental irrigation per season, May through September, to maintain optimum health and appearance.

MAINLINE: Piping upstream of the control valve in an irrigation system.

MAINTENANCE: Any activity undertaken to prevent the deterioration, impairment, or need for repair of an area, structure, rights-of-way, or land use, including but not limited to management, repair or replanting of plant materials, landscape materials, and/or irrigation system.

MAJOR MODIFICATION: Changes in live plant material coverage and/or square footage; and/or changes to irrigation service line sizes, drastic relocation of irrigation mainlines, changes in irrigation water application methods between overhead and sub-surface, and irrigation head types.

MAJOR REVISION: A revision to this manual that involves policy changes, technical criteria variances, and / or major construction detail revisions.

MASTER VALVE: The valve that turns water on and off for the entire irrigation system.

MEDIAN: An area that separates lanes of traffic traveling in opposing directions.

MINOR REVISION: A change to this manual that involves grammar, submittal requirement changes, clarifications and construction detail revisions for clarification, and / or minor modifications.

MOBILE HOME: A transportable structure suitable for year-round single-family occupancy and having water, electrical, and sewage connections similar to those of conventional single-family dwellings.

MODERATE WATER USE PLANT MATERIAL: A plant material that requires over ten (10) inches and less than fifteen (15) inches of supplemental irrigation per season, May through September, to maintain optimum health and appearance.

MULCH: Non-living organic or inorganic material such as bark or rock material typically in a loose condition, used in the landscape industry to cover bare ground.

NATIVE AREA: An area of plant materials that are indigenous to Castle Rock. Such area may or may not include permanent irrigation, depending on the use.

NATIVE PLANT: A plant that is part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem.

NATIVE SEED: Seed of native grasses.

NATIVE SOIL: Soil that is indigenous to Castle Rock that has developed over hundreds or thousands of years.

NATURALIZED PLANT: A non-native plant that does not need human help to reproduce and maintain itself over time in an area where it was not native.

NITROGEN (N): As used in the context of these Criteria, refers to this nutrient as used by plants as part of photosynthesis, promoting green plant growth.

NON-LIVING ORNAMENTAL: Area covered by rock mulch, which does not contain plant material.

NON-NATIVE PLANT: A plant that is introduced with human help (intentionally or accidentally) to a new place or new type of habitat where it was not previously found.

NON-RESIDENTIAL: Commercial development, such as a business, industrial, governmental, school, religious institution, or mixed uses (see **Section 7**). HOA or common areas are defined as non-residential for watering schedule purposes.

NOXIOUS WEED: An alien plant or parts of an alien plant that have been designated by rule as being noxious or has been declared a noxious weed by a state, county, or local regulatory agency, meeting one or more of the following criteria:

- Aggressively invades or is detrimental to economic crops or native plant communities;
- Is poisonous to livestock;
- Is a carrier of detrimental insects, diseases, or parasites;
- The direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural ecosystems.

NOZZLE: A short duct that is used to direct the flow of water from a sprinkler head.

OPERATING PRESSURE: The pressure at any point in the irrigation system when the system is functioning. Operating pressure is measured with flow in the line. Also known as dynamic pressure.

ORGANIC MATTER: Leaves, grass clippings, wood chips, and other yard wastes.

ORNAMENTAL TREE: A small canopy deciduous tree providing variety and interest by flower display, attractive fruit, or fall color.

PARK: An area of land offered for public use and rest and recreation.

PARKING LOT: The paved area used to accommodate vehicles associated with commercial and multi-family uses. The area of the parking lot used to calculate parking area landscape requirements excludes roadway, aisles leading to and from the parking lot, and landscape area abutting the parking lot. It is measured from back of curb to back of curb, and may include landscape islands between parking spaces or drive areas, and peninsulas (measured from ground plane back of abutting curb).

PARKING LOT ISLAND: A landscape area in a parking lot surrounded on four (4) sides by parking spaces or drive isles.

PARKING LOT PENINSULA: A landscape area typically surrounded on three (3) sides by parking spaces or drive isles.

PASSIVE PARK: A public common area park used for passive activities such as walking, hiking, biking, picnicking, and wildlife viewing.

PASSIVE RECREATION AREA: A common area used by multi-family complexes, or localized neighborhoods that are used for non-programmed athletic activities, picnic areas, playground equipment or other recreational / play areas.

PERENNIAL: A herbaceous plant that blooms and produces seed for each year, exceeding two years. A short-lived perennial lives for approximately three (3) to five (5) years. Long-lived perennials are likely to live much longer and can remain for over twenty (20) years.

PERFORMANCE STANDARD: Outlines an expectation of results, through identification of a benchmark against which performance is measured.

PERMITTEE: The party making application for permit.

PHOSPHORUS (P) (Used in the context of these Criteria): A nutrient as used by plants as part of photosynthesis, nutrient transport, and energy transfer. Phosphorus assists with stable root system development, growth, and flowering.

PLANT HEIGHT (for the purposes of this document): Is determined as typically measured by the National Nursery Association Standards. See Town of Castle Rock plant list for plant heights.

PLANTING AREA: An area in which plants are to be installed, surrounded by mulch, and separated from other planting areas. Such areas may be irrigated on the same zone but are required to have individual operational indicators.

PLANT MATERIALS: Living plants such as trees, shrubs, groundcovers, and vines, and shall not include weeds or other undesirable plants as determined by the Town.

POTABLE WATER: Water that has been treated and is suitable for drinking.

POTASSIUM (K) (as used in the context of these Criteria): A nutrient as used by plants to assist with water uptake and drought resistance, as well as to promote strong roots, stems, leaves, and fruits.

PRECIPITATION RATE: The quantity of water applied to the ground measured in inches per hour; also used in lieu of “application rate”.

PRESSURE (PSI): The force that moves water through a pipe or piping system and is measured in pounds per square inch (PSI) or feet of head. One foot of water depth equals 0.433 PSI, and one PSI equals 2.31 feet of head.

PRESSURE GAUGE: A device used for indicating water pressure.

PRESSURE REGULATING VALVE (PRV): A valve used to control pressure within a piping system.

PUBLIC IRRIGATION WATER ORDINANCE: Chapter 13.20 in the Municipal Code which references limitation on high water use plant materials by using a formula to calculate the CLWUR or composite landscape water use rating for a landscape project.

QUALIFIED WATER EFFICIENT LANDSCAPER (QWEL): An individual who has successfully completed the Qualified Water Efficient Landscaper training and certification program. The QWEL program is a comprehensive in-depth training and certification program, emphasizing irrigation, landscape, water management and horticultural best management practices.

RAIN SENSOR OR RAIN SHUTOFF DEVICE: A device connected to an irrigation controller that interrupts scheduled irrigation when precipitation has been detected.

RECORD DRAWINGS: Town approved construction plan that depicts the final disposition, location, with dimensions of the installed landscape and irrigation equipment. Contractor shall keep record drawings current as project progresses.

REDEVELOPMENT: Any man-made change to improved or unimproved real estate including any material change in the use or appearance of any structure, physical improvement, grading, landscaping, or in the land itself.

REGISTERED LANDSCAPE COMPANY: Landscape and irrigation design, installation, or maintenance company, working on non-residential / commercial properties within the Town of Castle Rock service area. Company must register with Castle Rock Water, designate one or more Responsible Landscape Professional(s), and indicate current properties under their control.

REGISTERED LANDSCAPE PROFESSIONAL: Landscape and/or irrigation design, installation and maintenance professionals that hold a current registration issued by Castle Rock Water.

RESPONSIBLE LANDSCAPE PROFESSIONAL (RLP): The person or persons designated by a landscape design, installation, or maintenance company to represent and ensure all activities comply with Town of Castle Rock regulations.

RETROFIT: An umbrella term that refers to the modification of something for more efficiency. In the case of water conservation, retrofit refers to modifications to plumbing fixtures, landscaping and/or irrigation to increase water use efficiency.

RIGHT-OF-WAY: A public street, way, alley, sidewalk, easement, tract, and Town-owned lands, or any other public property owned and controlled by the Town, or dedicated to public use.

RISER: An upright piece of pipe used to support nozzles, heads, emitters, backflow preventers, and valves.

ROOT ZONE: The depth of the plant roots in the soil; the area in which plant roots grow.

ROUGH GRADE: The ground surface or contour that is not the final preparation for plants.

ROUND-A-BOUT: A circular junction in which road traffic must travel in one direction around a central island.

SCOPE OF WORK AREA: The gross site area of a parcel, and/or the property to which landscape improvements are being proposed. See definition of “gross site area”. If a project involved public or common area that is not referenced by a parcel or lot, scope of work areas may be referenced by the area served by a single dedicated irrigation service, or as identified by right-of-way, and/or public common areas.

SEMI-ARID CLIMATE: A climate characterized by ten (10) to fifteen (15) inches of annual precipitation; very dry with little rainfall and scrubby vegetation. Castle Rock is located in a semi-arid climate.

SERVICE LINE: A privately owned and maintained small diameter pipe used to connect from a water main through a small tap to a water meter at user’s location. Also known as “tap”.

SETBACK: The required minimum horizontal distance between the location of structures or uses and the front, side, or rear lot line measured perpendicular to such lot line.

SHRUB: A self-supporting woody plant either evergreen or deciduous of low to medium height with multiple stems arising at or near the ground.

SHUT OFF VALVE (isolation valve): A valve within an irrigation system that shuts off the entire system or isolates a portion of the system.

SIGHT DISTANCE TRIANGLE: The minimum visibility clearance provided at all access point locations, intersection of adjoining streets, and entrance drives. Landscape type, height, and opacity are limited in these areas. Also known as visibility distance triangle.

SITE DEVELOPMENT PLAN (SDP): The purpose and intent of the Site Development Plan is to depict the general layout of a residential subdivision or the site layout, site improvements and building configuration of a multi-family residential, commercial, industrial, or mixed-use development.

SLOPE: The degree of change from the horizontal plane. Often slope is calculated as a ratio of "horizontal run" to "vertical rise", or as a fraction ("run" over "rise") in which run is the horizontal distance and rise is the vertical distance.

SMALL CANOPY DECIDUOUS TREE: A tree of smaller size that has a mature height of less than thirty (30) feet. Also known as "ornamental tree".

SMART IRRIGATION CONTROLLER: A controller that automatically adjusts the programmed run time or watering frequency based on changes in weather or soil moisture.

SOIL AMENDMENT: Organic material added to the soil to improve texture, moisture holding capacity, nutrient capacity, water and air infiltration.

SPORTS FIELD: A field on which sports are played.

STREET: Any public or private road.

STREETSCAPE: Pedestrian and landscape improvements in the right-of-way, generally occurring between the curb and the ROW line. Streetscape generally includes sidewalks, street trees, and street tree planting strips, abutting area between back of sidewalk, and private lots, with all associated landscape and irrigation.

STREET TREE PLANTING STRIP: The area intended for planting to include street trees, between a detached sidewalk and street curb. Also known as "tree lawn".

SUB-SURFACE DRIP IRRIGATION (SDI): Drip tubing with inline emitters, evenly spaced in a grid pattern, usually installed under turf or groundcover.

TECHNICAL CRITERIA VARIANCE: A design or portion of a design, for landscape and/or irrigation that is a diversion from criteria contained in these Criteria. The variance request shall meet the intent of the Criteria. A variance requires formal approval by the Director of Castle Rock Water and/or Director of Development Services.

TEMPORARY EROSION AND SEDIMENT CONTROL (TESC): The TESC Permit Program is mandated by legislation, including the Federal Clean Water Act's National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II Regulations, and the Colorado Water Quality Control Act. See Temporary Erosion and Sediment Control manual.

TEMPORARY IRRIGATION: A temporary watering system designed to transport and distribute water to landscape plants.

TEXAS HYBRID BLUEGRASS: A hybrid turf variety created by combining Kentucky Bluegrass (Poa pratensis L.) and Texas Bluegrass (Poa arachnifera Torr.). Such hybrids demonstrate lower water use requirements than Kentucky Bluegrass (Poa pratensis L.), while being drought and heat tolerant.

TOPSOIL: Native soil, may also refer to imported soil material where native is substandard or non-existent, that is used for soil material in landscaped areas, not considered an organic component for soil amendment or soil preparation.

TOWN (in reference to these Criteria): The Town of Castle Rock.

TRACT: A parcel of land which is created for the purposes of common ownership and use by two (2) or more property owners; ownership and use by an association or government entity; or an impermanent status where property intended for further division can be platted and transferred, but where no building permits can be issued.

TRANSPIRATION: The process of water moving through the leaf surface of a plant and vaporizing, and is utilized by the plant to cool its leaves.

TREE: A woody plant with leaves or needles that grows to achieve height usually above the human form, often providing shade.

TURF: A grouping of grasses that grow in very close proximity to form a living surface at the ground plane, is regularly mowed forming a dense growth of leaf blades and roots. See **Appendix B**.

URBAN AREA: A focused development that has limited open space, primarily contains a variety of non- residential uses, but may also integrate residential uses, that combines the uses in a way which considers character, local identity, heritage, pedestrians, and traffic. Urban Areas include the Downtown Overlay District, the Wolfensberger North Zoning Overlay District, or other dense mixed use areas as determined by the Town.

USDA Hardiness Zone: A geographically defined area in which a specific category of plant life is capable of growing as defined by climatic conditions, including its ability to withstand the minimum temperatures of the zone. Castle Rock is a USDA Hardiness zone 5b (See **Section 4.6.7**).

VEGETATION: Plants, in general, or the sum total of plant life in an area.

VELOCITY (for the purposes of these Criteria): The rate of water flow calculated in feet per second (FPS).

VERY LOW WATER USE PLANT MATERIAL: Plant materials that require five (5) inches or less of supplemental water applied during the growing season, May through September.

WATER EFFICIENCY PLAN (WEP): A document which is part of the Development Agreement (DA) that has landscape and irrigation design requirements that exceed current Town of Castle Rock landscape and irrigation standards that use water more efficiently. The plan also outlines the homeowner education required for maintenance of the landscaping and irrigation systems.

WATERING RESTRICTIONS: Limitations on when irrigation may take place, and may include day and time.

WATER WASTE: The application of water to impervious surfaces, over irrigation resulting in runoff or pooling, and non-beneficial use of water.

WEED: Plant materials identified by local or county code, or state statute.

YARD OR YARD AREA: All portions of a lot not covered by impervious area. Yard area is typically broken down to front, rear, and side yard areas.

ZONE (IRRIGATION): A group of heads connected to a control valve.

ZONE (LANDSCAPE OR PLANT HARDINESS): Zones that are broadly defined by the plant communities that occur at approximate elevations. Colorado State University defines five (5) life zones. The United States Department of Agriculture references hardiness zones. Plants used in Castle Rock shall be consistent with the appropriate life or hardiness zone, and shall be on the Town's approved plant list.

Section 2: Professional Registration

2.0 INTRODUCTION

This Section describes the classifications, associated qualifications, and the Town's registration process for landscape and irrigation design, installation, and maintenance professionals. It outlines the responsibilities and compliance aspects of being a Registered Landscape Professional in the Town.

2.1 GENERAL REQUIREMENTS

State of Colorado Professional Landscape Architect license is required for landscape design (with the exception of single-family and multi-family up to four (4) units – not including common area).

Registration with the Town of Castle Rock, through Castle Rock Water, is required to conduct:

- Landscape design (unless licensed by the State of Colorado)
- Irrigation design
- Supervision of landscape or irrigation installation
- Supervision of landscape or irrigation maintenance of non-residential properties

A landscape company working on non-residential properties in Castle Rock is required to be registered through Castle Rock Water and designate one or more Responsible Landscape Professional(s) (RLP) who represent the company and is directly responsible to ensure compliance with all criteria set forth in the Water Use Management Plan and the Landscape and Irrigation Criteria Manual. The Responsible Landscape Professional must obtain a Qualified Water Efficient Landscaper (QWEL) certification and be registered through Castle Rock Water.

A Registered Landscape Professional (RLP) designation applies to individuals, not companies or organizations. The registered individual (RLP) is responsible for all work conducted on a project under his/her supervision.

2.1.1 REGISTRATION REQUIRED

1. Registration of Landscape Professionals expedites plan review, permitting, inspection, and approval of qualifying landscapes. Landscape Professionals are required to have a working knowledge of current industry related best management practices and technologies. They are also required to have a working knowledge of these Criteria and other applicable codes and policies and be able to incorporate them into landscape and irrigation design, construction, and maintenance.
2. All land uses, with the exception of installations done by individual residential homeowners (individual residential homeowners do not include developers/tract home builders), require a State Licensed or Town registered professional for landscape and irrigation, installation, and maintenance of landscaping and irrigation systems.
3. Any landscape designer, irrigation designer, or installation contractor performing work or service in the design, construction, installation, maintenance, addition, alteration, repair, equipping, moving, removal, conversion, or demolition of any landscape or irrigation governed by these Criteria must possess a current Colorado Professional Landscape Architect license or be registered through Castle Rock Water. The type and size of landscape designs are governed by the State of Colorado.
4. Permits for construction will only be issued to registered professionals.
5. A current professional (Colorado State or Castle Rock Water) registration number and name shall be present on all applications, drawings, and permits.

2.1.2 REGISTERED PROFESSIONAL CLASSIFICATIONS

Landscape Design Professional

In order to register as a Landscape Professional, an applicant must certify they meet the requirements for plan preparation by providing professional qualifications. Colorado State law governs the sizes and types of projects that unlicensed individuals can design independent of Town requirements. For those projects exempt from State licensure, applicants must successfully complete a Town registration workshop, and obtain the Qualified Water Efficient Landscaper (QWEL) certification.

Irrigation Design, Landscape and Irrigation Installation, and Maintenance Professionals

To be eligible to perform irrigation design, landscape and irrigation installation, or maintenance, an applicant must certify they are qualified to prepare the type of plans they submit by completing the following requirements:

1. Attendance at a registration workshop; and
2. Passing score (seventy-five (75) percent or better) on a test formatted to identify level of knowledge of the Water Use Management Plan and Town of Castle Rock Landscape and Irrigation Criteria Manual.
3. All Town of Castle Rock updates and revisions will be emailed to currently Registered Landscape Professionals and must be acknowledged and accepted.
4. Successful completion of the Qualified Water Efficient Landscaper (QWEL) training and certification program.
5. QWEL certification must remain current and in good standing.

2.2 EXPIRATION

All registrations in good standing shall be valid through April 30th of the following year.

In order to keep registration in good standing, qualifying Landscape Professionals shall comply with all requirements identified in these Criteria.

2.2.1 RENEWAL

A fee may be charged for registration renewal, and shall be set forth in the applicable fee schedule.

For Registered Landscape Professionals in good standing, renewal may be issued upon receipt of acknowledgment of revisions to policies, criteria, or other applicable codes, in lieu of seminar attendance and testing.

Non-compliance with these Criteria may deem a Registered Landscape Professional ineligible for renewal. In such cases, seminar attendance and testing will be required prior to registration renewal.

2.3 COMPLIANCE

The Registered Landscape Professional is responsible for performing the activity authorized in a proficient manner consistent with industry standards, these Criteria, and related Town policies and codes. Failure to comply with this requirement shall be cause for the denial, suspension, revocation, or restriction of registration.

2.3.1 WORK WITHOUT CURRENT REGISTRATION

When design, installation, or maintenance work is commenced without first obtaining a Landscape Professionals registration through Castle Rock Water, or when the registration is expired, a special investigation may be conducted. An investigation fee equal to the amount of the registration fee may be assessed.

Landscape or irrigation plans submitted by individuals without a current Colorado Professional Landscape Architect license or Landscape Professionals registration through Castle Rock Water will not be accepted for review. Landscape or irrigation construction or maintenance performed by individuals without a current registration shall not be eligible for inspection or additional permit issuance.

2.3.2 DENIAL, SUSPENSION, REVOCATION OR RESTRICTION OF REGISTRATION

The Director of Castle Rock Water, or designee thereof, shall have the authority to deny, suspend, revoke, or place restrictions on a Landscape Professional's registration under any of the following circumstances:

1. False or misleading information was provided on the registration application or permit application.
2. Fails to provide reasonable information or documentation of knowledge and experience required by the registration classification applied for.
3. Provides false or misleading information on permit applications.
4. Fails to comply with any of these Criteria.
5. Knowingly allows the registration to be used by another person, firm, or corporation.
6. Commits any conduct constituting fraud in or connected with any activity relating to construction, which is governed by these Criteria or other Town policies, regulations and/or code.
7. The Responsible Landscape Professional and the Registered Landscape Professional will be notified of any instance of non-compliance and given the opportunity to correct all inconsistencies.
8. Non-residential areas shall complete necessary repairs within twenty-four (24) hours of notification or at a minimum before the system is used again.
9. Failure to correct inconsistencies, or more than one notice of non-compliance, will result in suspension of the Landscape Professionals Registration.
10. Providing false or misleading permit fee charges to a customer or to the Town.

When the Director of Castle Rock Water, or designee thereof, deems that such registration shall be denied, suspended, revoked, or restricted, the procedures shall be as follows:

1. The applicant or registrant shall be notified in writing, at least seven (7) calendar days prior to the denial, suspension, revocation or restriction. Notice shall include the reason for the action and shall be delivered to the address of record.
2. The applicant or registrant may appeal the suspension or revocation. Such request shall be in writing and delivered to the Director of Castle Rock Water, or designee thereof, within ten (10) calendar days of the receipt of the notice. The appeal letter shall include a thorough explanation of why the Registered Landscape Professional believes it was issued in error. Any appeal received after this time will not be considered.
3. The Director of Castle Rock Water, or designee thereof, shall provide the applicant or registrant with written findings and a ruling within fifteen (15) business days after review of the appeal.

4. Any decision rendered by the Director of Castle Rock Water, or designee thereof, shall take effect upon expiration of the ten (10) day appeal period.

Emergency suspension

If the Director of Castle Rock Water, or designee thereof, finds an emergency cause exists for suspension or revocation of a registration, he/she may enter an order for immediate suspension of such registration, pending further investigation.

Period of suspension

If a registration is revoked, the applicant shall not be eligible to register with the Town for a period of six (6) months after the revocation or any final decision from an appeal thereof.

Effect of revocation

Registration reinstatement can be accomplished by successfully completing the landscape professionals test and paying the associated registration fee.

Provisions concerning work in progress

The suspension or revocation of a registration may include reasonable orders or conditions with which the Landscape Professional must comply in order to protect the work in progress as well as the intent of these Criteria.

Section 3: Landscape and Irrigation Submittal Requirements

3.0 INTRODUCTION

The requirements presented in this Section shall be used to aid the applicant, designer, installer, and maintenance contractor in the analysis, design, installation, and maintenance of landscape and irrigation. The requirements presented herein are the minimum necessary for landscape and irrigation plan submittals, and should be considered in conjunction with the requirements set forth by the Town's Development Services Department.

3.1 REVIEW PROCESS

3.1.1 PRE-APPLICATION MEETING

A pre-application meeting with the Town's Development Services Department is required for any type of development, redevelopment, or renovation. The purpose of this meeting is to discuss general information about the project, pertinent aspects of the Criteria, the required scope, and any special procedures, analyses, and submittal requirements that may be applicable.

3.1.2 LANDSCAPE AND IRRIGATION SUBMITTAL REQUIREMENTS

Landscaping shall be designed as an important part of the overall site design. Landscaped area shall enhance the building design and public views, provide buffers and transitions between adjacent land uses, and provide screening. A general landscape plan shall be included with the Site Development Plan (SDP) submittal and a more detailed landscape and irrigation plan shall be submitted with the Construction Document (CD) submittal. All plans shall include the designer's name, contact information, State license number, and Landscape Professionals registration number, where applicable. Plans must be scaled, electronically reviewable, and printable at a twenty-four (24) inch x thirty-six (36) inch size with a scale of one (1) inch = twenty (20) feet and no greater than one (1) inch = forty (40) feet.

All forms, checklists, and plant list can be found online at the Town's website (CRgov.com/landscapeforms),

3.1.2.1 SITE DEVELOPMENT PLAN (SDP)

1. Landscape plan. A general landscape plan is to be provided with the SDP submittal and is considered along with the overall development goals for the project, sets forth design parameters, and recognizes special conditions that may exist within the proposed project. The general landscape plan shall establish minimum tree and shrub quantities, (these are required and should be organized using the Town of Castle Rock site inventory form applicable to the type of project), tree and shrub locations, tree and shrub types, and hydrozones. The following site and use analysis should be considered:

    a. Site Analysis

        Site analysis consists of inventory and analysis of all existing features that may influence landscape design. This includes direction of prevailing winds, exposures, topography (slopes and swales), drainage areas, existing features (utilities, trees, shrubs, walkways, and structures), and views. The site analysis must consider local zoning and codes related to utility easements, site distance requirements, and interface buffering. Hatch keys, north arrow, and scale are required.

b. Use Analysis

Use analysis consists of identifying the typical functions and activities that occur on the site and assists with landscape material selection and irrigation design. This includes the overall theme of the site and neighborhood, identifying future building projects, onsite traffic patterns, activity areas, service areas, and any other use that will affect the landscape design. Interface landscaping, when necessary, shall be shown on the SDP.

2. Irrigation Plan. A complete irrigation plan is not required with the SDP submittal. A complete irrigation design is necessary in order to determine water service connection and meter size.

3. Required forms/charts, and notes:

a. Non-residential properties shall complete the Town of Castle Rock Commercial Site Inventory Form.

b. Multi-family residential projects shall complete the Multi-family Landscape Site Inventory form.

c. Composite Landscape Water Use Rating (CLWUR)

d. Town of Castle Rock standard landscape notes for site development plans

3.1.2.2 CONSTRUCTION DOCUMENTS (CD)

1. Landscape Plan. A detailed landscape plan is to be provided with the CD submittal. The detailed landscape plan shall conform to minimum tree and shrub quantities, tree and shrub locations, and hydrozones established in the SDP. The landscape plan will also include tree and shrub species as well as other plant species and landscape material.

a. Design elements shall include (as applicable):

i. Plant materials (trees, shrubs, living groundcovers, grasses, vines, annuals, and perennial flowers) - locate, identify, and draw at mature size

ii. Structures (buildings, fences, retaining walls, gazebos/patios, pavements, decks, sidewalks, parking structures, and other visual features) – locate and identify

iii. Grading and contours (all slopes equal to 3:1 are to be called out on landscape sheets. Slopes greater than 3:1 are not permitted)

iv. Minimum soil amendments as required by the Town

v. Special features

vi. Mulch types (inorganic or organic) and depth in inches

b. Include Town of Castle Rock standard landscape notes for construction documents and planting details.

c. Within the plant schedule, list quantities, types, and sizes at planting of plant material to be used, including specific species in seed mixes. Plant material shall be listed by both common and scientific name. Complete Town of Castle Rock Plant Schedule. Plants are to be called out by legend abbreviation and quantities in parenthesis on the landscape plan.

d. Include summary table identifying square footage of each area by type of landscape cover (e.g., non-irrigated native, turf, groundcover, shrubs, trees, and mulches). Non-residential properties shall complete the Town of Castle Rock Commercial Landscape Site Inventory form and multi-family residential projects shall complete the multi-family Landscape Site Inventory form.

e. Town of Castle Rock planting details are required and can be found online at the Town's website (CRgov.com/1711/Landscape-Forms), including methods of soil preparation, soil and vegetation removal, and stockpiling and reuse.

f. Locate and identify all significant areas of existing natural vegetation, specimen trees, wildlife habitat, and landscape features to be preserved and/or improved. See CD checklist for additional requirements.

g. Where a site abuts a natural amenity such as a floodplain, trail corridor, park, or other open space, the landscape plan shall complement the natural character and integrity of the amenity.

h. Show and label all property lines and right-of-way areas.

i. Show and label all existing and proposed easements and utility lines. Wet utilities such as water, sanitary sewer, and stormwater lines shall be labeled. Wet utility or drainage easements shall be called out with dimensions.

j. Show sight distance triangles - these areas must be kept free of visually obstructing landscape features (thirty (30) inches or taller) at mature size. All plant material within sight distance triangles shall be labeled with common and scientific name and mature height as shown on the Town of Castle Rock plant list.

k. Label all existing plant material to be removed or to remain then delineate on Construction Documents.

2. Irrigation Plan to include:

a. Plan elements

Irrigation diagram showing:

i. Head layout
ii. Drip layout
iii. Hydrozones
iv. Scaled appropriately to match the landscape plan
v. Irrigation legend

vi. Service line location and size

vii. Irrigation meter location and size

viii. Backflow location and size

ix. Existing and proposed utility easement location and information

b. TCR standard construction document irrigation notes and details.

c. TCR Hydraulic Worksheet.

d. TCR Irrigation Chart.

3. Record Drawings. Landscape and irrigation improvements shall be approved by the Town. Drawings reflecting final installation of landscape and irrigation components shall be submitted in accordance with the Town's Regulations and "Drawing and Digital Submittal Requirements" prior to final approval. Such record drawings shall contain all required information as set forth in the latest version of the applicable checklist. The digital submittal shall include the geospatial layer reflecting the irrigated area(s).

3.1.3 CHECKLISTS AND FORMS

Required checklists and forms are available on the Town of Castle Rock website (CRgov.com), and must be included with each plan submittal. Appropriate notations shall be provided with the checklist to assist the reviewer in determining whether the submittal is complete. For example, if a specific item is not addressed or not applicable, an explanation must be provided.

3.1.4 SUBMITTAL ADEQUACY

Any submittal with incomplete or missing information may result in the plan being returned without review. The Town reserves the right to request additional information pertaining to specific landscape and irrigation plans beyond the general requirements in these Criteria.

3.2 APPROVAL

3.2.1 FINAL LANDSCAPE AND IRRIGATION PLAN REQUIRED FOR CONSTRUCTION

The final landscape and irrigation plan shall be included in the CDs, and shall be approved by Castle Rock Water prior to the construction of any landscape and irrigation improvements.

3.2.2 ONE YEAR APPROVAL LIMITATION FOR FINAL LANDSCAPE AND IRRIGATION PLAN

The final landscape and irrigation plan shall be valid for one year from the date of Town approval of the final approved construction documents. If the improvements have not been constructed and accepted by the Town within one year, or extended in conformance with the Town requirements, the plan shall be deemed invalid and resubmittal required. In order to be re-approved, it must be demonstrated that the concepts, designs, analyses, and calculations presented in the plan are consistent with current Town's Criteria.

Section 4: General Requirements

4.0 INTRODUCTION

This Section describes minimum necessary general performance standards and Criteria of landscape and irrigation for all land uses. State licensed and Town Registered Landscape Professionals, homebuilders, and homeowners shall use this information for design, construction, installation, and maintenance of all land uses. All forms, checklists, and plant list can be found online at the Town's website (CRgov.com),

4.1 APPLICATION

This Section applies to all properties within the Town limits or served by Castle Rock Water.

4.1.1 APPLICABLE USES

1. Multi-family properties as outlined in **Section 5**
2. Single-family and two-family residential properties as outlined in **Section 6**
3. Non-residential properties / business / industrial / governmental / schools / religious institutions / mixed-use properties as outlined in **Section 7**
4. Urban Areas as outlined in **Section 8**
5. Streetscape, rights-of-way, and tracts along rights-of-way, as outlined in Section 9
6. Parks, Sports Fields, and Golf Courses as outlined in **Section 10**

4.1.2 APPLICABLE LANDSCAPE AND IRRIGATION

1. Gross site area
2. Front, back, and side yard, including setbacks and utility easements.
3. Parking lot
4. Common areas
5. Streetscape

These Criteria shall apply when there is a renovation of any non-residential landscaped property in existence prior to the adoption of these Criteria.

1. Projects which impact twenty-five (25) percent or greater of landscaped area associated with a single water service connection (one tap)
2. Projects which impact ten thousand (10,000) square feet or greater of landscaped area associated with one or more water service connections (taps).

The area that shall be considered toward development of the percentage of impacted area shall include:

1. By lot – All landscape improvements on one (1) lot.

2. By metered service – All landscape improvements irrigated by a single meter.

3. By approved site plan - The percentage shall not be calculated on the entire approved site plan, unless the entire project is served by a single irrigation meter.

Town reserves the right to require renovations meet current Criteria, regardless of impacted area. Current Criteria must also be met where additional interface is required, or there is a change to existing final approved construction documents or plans for the lot, project, or site plan.

4.1.3 NOT APPLICABLE. This Section shall not apply to:

1. Homeowner repair of an existing irrigation system.

2. Renovation of existing irrigation systems that does not include addition of an irrigation zone.

3. Renovated areas less than twenty-five (25) percent of the existing landscaped area. Existing landscaped area shall mean the landscaped area on a single lot, or serviced by a single irrigation meter. Existing landscaped area shall not mean the entire approved site plan area, unless the project is served by a single irrigation meter.

4.2 GENERAL DESIGN REQUIREMENTS

This Section identifies the minimum general performance standards and Criteria for landscape design, irrigation design, and maintenance.

4.3 GENERAL PERFORMANCE STANDARDS AND DESIGN CRITERIA

All landscape and irrigation design, installation, and maintenance shall be evaluated against these performance standards and Criteria. Project approval is based on meeting the intent, performance thresholds, requirements, expectations, and level of quality defined within the performance standards, and the specific Criteria.

4.3.1 PERFORMANCE STANDARD #1: Efficient Water Use

1. Conserve water through application of water-wise, ColoradoScape design principles, and current industry-related best management practices.

2. Water allocation for irrigation shall be consistent with plant material requirements.

   a. No individual plant may have water demand greater than fifteen (15) inches per growing season.

b. Water allocation for the irrigation of parks, sports fields, and golf courses shall vary by use of the area. Parks and passive recreation areas may be allocated up to nineteen (19) inches, such allocations are by approval only. No individual plant may have a higher water demand than fifteen (15) inches. Uses in this category shall be subject to the Composite Landscape Water Use Rating (CLWUR) analysis, and shall have a value for all irrigated public areas of no greater than two and one half (2.5). All allocations refer to inches of irrigation allocation per growing season. See Town Municipal Code Chapter 13.20 Irrigated Public Area Water Conservation for more information on CLWUR calculations.

c. Schools may be allowed additional seasonal irrigation of up to nineteen (19) inches for approved passive use common areas that facilitate high public use. These areas shall meet specific criteria in order to qualify for this additional seasonal irrigation (See **Section 10**).

3. Allocated water shall be used as efficiently as possible. When an overhead irrigation system is installed, system efficiency shall achieve a distribution uniformity of seventy-five (75) percent or greater. This level of efficiency shall be demonstrated through an independent audit performed after installation by a Certified Irrigation Auditor or as certified by the Irrigation Designer and accepted via the Town's Irrigation Design Affidavit.

4. The irrigation system shall be designed, installed, and maintained to eliminate run-off from landscaped areas and shall not damage street, sidewalk, or utility infrastructure.

5. Water waste is not allowed. Water shall not be applied to impervious surfaces.

4.3.2 PERFORMANCE STANDARD #2: Environmental Sustainability

1. The project shall conserve water, and use the water that is applied efficiently.

2. The project shall seek to apply Low Impact Development (LID) stormwater mitigation techniques. Refer to the Town's Stormwater requirements.

3. The project shall alleviate the urban heat island effect by shading paved surfaces and rooftops where possible, as well as embracing and promoting other techniques and technologies to achieve this goal, as approved by the Town.

4.3.3 PERFORMANCE STANDARD #3: Aesthetics and Quality of Life

1. The design, installation, and maintenance of the project shall enhance the visual aesthetics of the landscape.

2. The project shall provide for an enriched quality of life by promoting an enhanced level of design, installation, and maintenance that fits the unique natural character and beauty of the Town, coupled with high quality land development.

3. The project shall preserve Castle Rock's natural resources, such as, but not limited to: views, nature, wildlife, habitat, flora, and fauna.

4. The project shall provide year round diversity of color and texture in plant material.

4.4 LANDSCAPE DESIGN

Unless otherwise specified within a particular land use, the Criteria within this Section shall apply to all land uses.

4.4.1 SOIL EVALUATION

Soil testing determines the condition of the soil related to texture, acidity, salts, and plant nutrient availability.

1. A soil analysis shall be conducted by a professional soil scientist at a certified soils laboratory.

2. Soil sample(s) shall be taken after over-lot grading, if applicable, and prior to landscaping.

3. The soil sample must represent a uniform area. Differences in texture (sand, silt, or clay), color, slope, degree of erosion, drainage, past management practices, types of plant material designed for each area should be taken into account when collecting the sample. The soil scientist shall determine the sample sites, depth, and frequency necessary to reflect a representative sample of the site and to coincide with the plant material intended for the area in the design. Recommended sampling frequency is no less than one sample per five thousand (5,000) square feet. Any sampling less than this frequency shall be justified by the soil scientist.

4. The soil analysis shall determine the organic and inorganic composition of native / indigenous soil in landscaped areas, and shall include:

   a. Soil texture

   b. Total exchange capacity

   c. Conductivity

   d. Organic matter

   e. Acidity

   f. Content of Nitrogen, Phosphorus, Potassium, Zinc, Iron, Copper, Manganese, and Lime

4.4.2 STOCKPILING

When stripping of indigenous soil (topsoil) occurs, stockpiling shall be required during construction (except as waived by Town staff). The replacement of this soil, plus additional soil amendments are critical to successful plant material establishment, ongoing health, and efficient use of water through the life of the project.

4.4.3 SOIL AMENDMENT

1. The soil analysis shall include specific recommendations based on the soil test results for the type of plant material to be grown in each landscaped area. The type and volume of soil amendment shall be determined by the soil scientist and be consistent with the indigenous soil and the needs of the plant material in each area of the landscape.

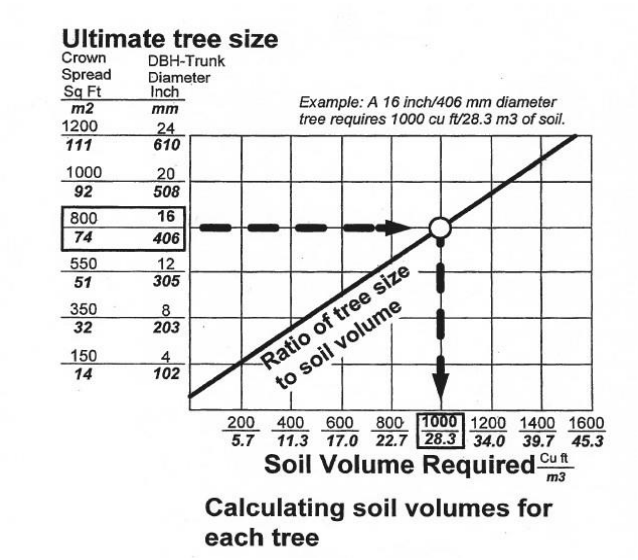
2. A minimum of four cubic yards of organic matter soil amendment per one thousand (1,000) square feet of landscaped area shall be required for turf grass, trees, shrubs, perennials, and annuals. See **Table 4-1** for soil volumes for trees. Soil amendments for native seed areas must be consistent with TESC detail #17.

3. Soil amendment organic matter shall consist of compost, as defined in **Section 1**.

4. Source water, such as non-potable water should be considered.

TABLE 4-1

Tree Soil Volume



Calculating soil volumes for each tree

4.4.4 SOIL PREPERATION

1. Amendment shall be tilled to a minimum depth of six (6) inches.

2. Site shall be graded to within two-tenths (2/10th) of a foot.

3. Slopes greater than 3:1 are not permitted.

4. Site shall be free of rocks, dirt clods, and debris over three-quarter inch (3/4-inch) diameter in size.

5. Dry-land seed areas may contain dirt clods up to two (2) inch diameter in size.

4.4.5 INSPECTIONS

1. Inspections are required prior to installation of plant material, and shall include review of adherence to all Criteria. Written documentation reflecting approved volume and type of soil amendment is required upon request. See CRgov.com/landscapeforms for current inspection requirements.

    a. Residential inspections include, but are not limited to the following:

        i. Compost and till

        ii. WI-FI enabled smart controller

        iii. Rain sensor

        iv. No overhead irrigation in any area less than ten (10) feet

    b. Non-residential inspections include, but are not limited to the following:

        i. Pre-construction meeting

        ii. Point of connection (IR-9 detail)

        iii. Compost

        iv. Soil till depth

        v. No slopes greater than 3:1

        vi. No overhead irrigation in any area less than ten (10) feet

        vii. Sub-surface irrigation, as necessary

        viii. Final landscape

        ix. Final irrigation

2. All landscape and irrigation inspections are weather dependent. Due to the extreme variability and unpredictability in temperatures, precipitation, and reduced daylight hours inspections will not be performed between November 1st and March 1st.

    a. Certificate of Occupancy (CO) will not be issued until all inspections have been completed, punch list items have been addressed, final letter of acceptance has been issued, and irrigation permit has been closed.

    b. In order to receive the CO, prior to completion of all permit requirements, the applicant may post a surety.

        i. Surety amount will be determined as a percentage of the owner's landscape and irrigation construction contract for items incomplete as determined by the approved plans unless a lower surety amount is outlined in the Subdivision Improvement Agreement (SIA) or Property Improvement Agreement (PIA).

1. Bond: 100% of owner's landscape and irrigation construction contract

2. Letter of credit: 75% of owner's landscape and irrigation construction contract

3. Cash / Escrow: 65% of owner's landscape and irrigation construction contract

4.4.6 STRUCTURAL SOIL

1. Cornell University (CU) Structural Soil™ is required for all approved narrow tree planting strips eight (8) feet or less in width (measured back of curb to edge of walk), or otherwise approved narrow areas, as well as in tree grates. See standard Details for structural soil requirements.

2. All applicable soil Criteria and standards shall be noted on drawings.

4.4.7 PLANT MATERIAL SPECIFICATIONS AND PLANTING STANDARDS

1. Minimum plant material quality

   a. Plant material shall be selected from the Town of Castle Rock approved plant list. Any plant material not on the approved plant list must be submitted for review and approval. Submissions must be consistent with Development Services procedures and shall include water requirements and USDA hardiness zone information. Plant material shall be adaptable to the local environment and capable of naturalizing.

   b. A minimum coverage of seventy-five (75) percent living plant material, at maturity, is required. No more than twenty-five (25) percent may be non-living material, to include organic mulch and rock. Plant material shall meet or exceed the plant quality and species standards of the current American Standard for Nursery Stock and be consistent with the Colorado Nursery Act.

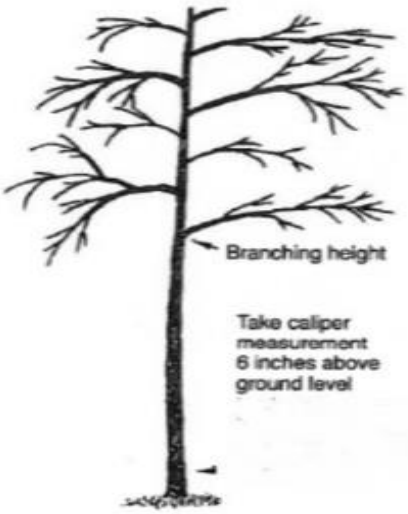
   c. Selected plant material shall be nursery-grown in accordance with proper horticultural practice. Plants shall be healthy, well-branched vigorous stock with a growth habit normal to the species and variety, free of disease, insects, and injuries.

   d. Plant material that is banned for use by the Town of Castle Rock, Douglas County, and / or the State of Colorado shall not be used. This applies to all builders, installers, owners, and, individual homeowners. Please see the Colorado Department of Agriculture website (https://www.colorado.gov/pacific/agconservation/noxiousweeds) for a detailed list of restrictions.

   e. Plants are to be hydrozoned with plants that have a similar water requirement. Plants of a very low hydrozone are not to be planted in a moderate to high hydrozone.

2. Minimum plant material size - All plant material shall meet the following requirements:

FIGURE 4-2



Measuring deciduous tree caliper

a. Large canopy deciduous shade trees shall be a minimum of two-inch in caliper, measured six (6) inches above the ground. Large canopy deciduous shade trees shall be three (3) inch caliper when in a grate. Ornamental and flowering trees shall be a minimum of one and one half (1½) inch in caliper measured six (6) inches above the ground.

b. Evergreen trees shall be a minimum of six (6) feet tall, measured to the mid-point of the most recent year's growth.

c. Shrubs shall be fully rooted, a minimum of five (5) gallon container in size, and spaced to provide seventy-five (75) percent ground cover within five (5) growing seasons. See Town of Castle Rock Plant List for specific growth characteristics.

d. Ornamental grasses may be used to meet the shrub requirement; all plant material must meet the minimum size requirements for shrubs listed above.

e. Perennials, ground covers, and vines shall be a minimum of one (1) gallon container in size. Such shall be spaced to provide seventy-five (75) percent ground cover within three (3) growing seasons.

f. Annuals shall be sized shall be appropriate to application, whether flats, four (4) inch pots or larger and spaced to provide seventy-five (75) percent ground cover.

g. Grass seed planting quality and quantity in irrigated areas shall be in compliance with nursery standards and shall provide a minimum ground cover of eighty (80) percent within the first growing season. For non-irrigated native areas, see Temporary Erosion and Sediment Control Requirements.

3. Minimum planting standards

a. Landscaping shall comply with the Town of Castle Rock planting details.

b. Plant materials shall be spaced appropriately to allow adequate room for root zone and vegetation at maturity.

c. Tree rings shall be provided for all trees within turf areas subject to mowing operations. Tree rings for evergreen trees shall extend to the dripline of the tree to avoid limbing up of evergreen trees.

d. Standard planting areas for large canopy deciduous shade trees shall be no less than eight (8) feet in width.

e. When an eight (8) foot width planting area is not possible, such as in urban areas or overlay districts, large canopy deciduous shade trees planted in areas less than eight (8) feet wide shall require CU-Structural Soil™.

f. Small canopy trees shall be planted in a landscape strip no less than six (6) feet in width (not including curb and gutter).

4. Minimum amount of plant material.

a. Tree requirements cannot be exchanged for other types of plant material. Fifty (50) percent of the tree requirement must include large canopy deciduous shade trees.

b. Diversity requirements for trees and shrubs are contained in **Table 4-3**.

TABLE 4-3 Diversity Recommendations

Deciduous Tree or Shrub Plant Diversity Scale

# of Plants	Maximum % of Single Species
1-5	Can have 100% of one species
6-10	Maximum of 50% of any one species
11-15	Maximum of 33% of any one species
16-20+	Maximum of 25% of any one species

Evergreen Tree or Shrub Plant Diversity Scale

# of Plants	Maximum % of Single Species
1-2	Can have 100% of one species
3-6	Maximum of 50% of any one species
7-12	Maximum of 33% of any one species
13-40	Maximum of 20% of any one species

4.4.8 NON-LIVING LANDSCAPE MATERIAL

1. Organic mulch, includes bark and wood chips

a. Shall be applied at one (1) cubic yard per eighty (80) square feet at a depth of four (4) inches, and as appropriate to each species.

b. Shall be applied to the soil surface, not against the plant stem or base of tree trunks, to minimize disease.

2. Inorganic mulch includes rock, gravel, or cobble.

a. Rock mulch shall have a minimum depth of two (2) inches.

b. Recycled rubber for landscape use is discouraged, however, may be considered for playground use.

3. Landscape fabric may be used underneath mulch to reduce weeds. Plastic is not allowed.

4. Artificial plant material is permitted. Materials such as artificial turf may be used in active sports fields. Homeowners Associations and other private restrictions may apply.

5. Edging shall be consistent with industry standards. Metal edging shall be rolled or capped to eliminate sharp edges.

6. Water features shall recycle water and be designed to reduce evaporation. Water features shall be on a separate service connection from the domestic water service. Water demand for the feature shall be defined and included in service connection sizing requirements. Wind shut off devices are required.

4.5 IRRIGATION DESIGN

This Section identifies Criteria for irrigation service connections, control, methods, equipment, and system efficiency.

4.5.1 GENERAL DESIGN

Unless otherwise specified within a particular land use, the Criteria within this Section shall apply to all land uses.

1. Landscaped areas, including pots and planters, less than five hundred (500) square feet. These areas may be watered by bulk water service or from the building through a combined service line and must be well-maintained.

2. Permanent irrigation systems are required in landscaped areas greater than five hundred (500) square feet.

   a. Irrigated areas between five hundred (500) and five thousand (5,000) square feet shall be served from the building through a combined service line.

   b. Irrigated areas greater than five thousand (5,000) square feet require a dedicated irrigation service line. This requirement does not apply to single family lots.

   c. Irrigation shall be hydrozoned, grouping similar water demands by irrigation zone.

3. Only drip and subsurface irrigation systems are allowed in areas between four (4) feet and ten (10) feet in width.

4. Irrigation is not allowed in areas less than four (4) feet in width unless approved in an Urban Area.

5. Generally, trees, shrubs, perennials, and groundcover shall be irrigated with drip irrigation. See Irrigation System Design for additional specific criteria. Native grass may be permanently irrigated on slopes not to exceed 3:1 (Slopes steeper than 3:1 are not permitted).

6. Native grass may be temporarily irrigated for establishment purposes. See the Town of Castle Rock Temporary Irrigation for non-irrigated native areas criteria (Appendix A). This Criteria is required to be shown on the landscape or irrigation sheets submitted for construction document review.

4.5.2 WATER SERVICE CONNECTION

Water service connections for irrigated areas greater than five thousand (5,000) square feet shall be completed consistent with all Town regulations.

1. Irrigation shall be served from a dedicated irrigation service connection to the Town's water distribution system, separate from the domestic water service.

2. All irrigation water shall be metered and have appropriate backflow prevention as identified by Town regulations. Backflow prevention assemblies must be installed no further than five (5) feet from the irrigation meter.

3. The irrigation water service connection shall be sized appropriately to accommodate irrigation during the hours and days outlined in the Town's Water Use Management Plan.

4. The mainline or lateral line from a single irrigation service connection shall not cross lot lines.

5. Maximum velocity shall not exceed seven and one half (7.5) feet per second through the service line and meter.

6. Mainline pressure

    a. System design shall consider minimum and maximum allowable mainline pressure as provided by the Town.

    b. Minimum pressure provided shall be forty-three (43) psi, maximum pressure shall be one hundred and twenty-five (125) psi.

    c. Site water pressure shall be identified by Castle Rock Water prior to irrigation system design and shall be noted on irrigation plans. Actual on-site pressure may vary based on water system demand at the time of the pressure test, subsequent development placing additional demand on the water system, etc.

7. Irrigation service connections (taps) shall not interconnect downstream of the meter. Irrigation mains cannot intersect with other irrigation mains serviced off another service connection.

8. The irrigation service line shall be the same size as the tap from the Town water main to ten (10) pipe diameters downstream of the meter.

4.5.3 IRRIGATION SYSTEM CONTROL

1. Smart irrigation controllers are required and shall be installed according to manufacturer recommendations. They shall apply the appropriate amount of water to maintain healthy growing conditions.

2. Due to common power outages, battery back-up or non-volatile memory is required on all controllers.

3. Central Control Systems are recommended for larger irrigated areas, ten thousand (10,000) square feet or larger.

4.5.4 IRRIGATION SYSTEM DESIGN

1. Resilient shut off valve with manual drain, or stop and waste valve, is required downstream of the meter.

2. All irrigation systems shall be contained by the appropriate backflow prevention assembly. See the Town's Cross-Connection Control requirements in Town code and associated policy manual(s). A passing backflow prevention test is required for issuance of certificate of occupancy.

3. Master valves are required on non-residential service connections.

4. Flow sensors are required on non-residential service connections.

5. Rain sensors are required.

6. Overhead irrigation.

    a. Overhead irrigation is not allowed in areas less than ten (10) feet in width/length.

    b. Temporary irrigation is allowed on slopes not to exceed 3:1. Refer to Temporary Irrigation Criteria in Appendix A.

    c. There shall be no overhead irrigation in parking lot peninsulas or islands.

    d. Pop-up height shall be consistent with the mature height of the plant material being irrigated. Pop-up height of six (6) inches is required for turf areas. Pop up height of twelve (12) inches is required for native, wildflower, or perennial areas.

    e. Pop-up spray heads shall be equipped with internal check valves, internal pressure regulation (Pressure regulation must be consistent with manufacturer's recommendations for the selected nozzle), and matched precipitation rate spray or rotary nozzles. Variable arc spray nozzles are not allowed.

    f. Rotors shall be equipped with internal check valves and pressure regulation.

7. Drip irrigation

    a. Drip irrigation is required in areas greater than four (4) feet, and less than ten (10) feet.

b. Drip irrigation shall be point-source drip or sub-surface drip irrigation for all trees, shrubs, perennials, and annual beds.

c. Drip emitters and sub-surface drip shall be equipped with internal check valves at each emitter.

d. All (Residential and non-residential) point-source drip, sub-surface drip, dripper line, and bubblers must be installed with an operational indicator in each planting area and a flush valve, with operational indicator at every dead end.

e. All drip emitters shall be installed on stakes and placed above the mulch, around the perimeter of the plant.

8. Bubblers may be substituted for drip emitters where necessary to provide adequate supplemental irrigation to plant material in certain locations (i.e., trees in native grass areas).

9. There shall be no irrigation within street medians or round-a-bouts.

   a. All material proposed within street medians or round-a-bouts shall be designed to minimize dislodging and obstructing travel lanes, and be compatible with Town maintenance operations. Proposed material must be shown on plan submittals. Final selected material must be approved by the Town.

10. Irrigation charts and hydraulic worksheets are required for irrigation plan submittal on construction documents.

4.5.5 IRRIGATION SYSTEM INSTALLATION

Installation of irrigation system shall be consistent with approved plans, and meet Town performance standards and Criteria prior to issuance of certificate of occupancy or other Town approval. Release of bonding or surety (if applicable) shall be withheld until approval is given.

1. Irrigation system installation shall be consistent with approved system design.

2. Irrigation system efficiency

   a. The irrigation system shall achieve a seventy-five (75) percent distribution uniformity efficiency rating as demonstrated through an independent audit performed after installation by a Certified Irrigation Auditor, or as certified by the Irrigation Designer and accepted via the Town's Irrigation Design Affidavit.

   b. The irrigation audit shall result in a representative sample of the irrigation zones, and at a minimum shall include evaluation of a random sampling of no less than twenty-five (25) percent of overhead irrigation zones, to include a minimum of two (2) spray zones and two (2) rotor zones. At the discretion of Castle Rock Water, the minimum number of zones may be increased depending on the size and complexity of the irrigation system.

   c. The Town reserves the right to conduct follow up audits as deemed necessary at the expense of the customer.

d. The irrigation system shall consist of high efficiency nozzles, with an application rate not to exceed one and one quarter (1.25) inches / hour.

e. When nozzles are installed on spray head bodies (either fixed spray nozzles or rotary nozzles), the spray head body must be equipped with internal pressure regulation consistent with the manufacturer's recommended design pressure. The irrigation system design and installation must include a minimum of head to head coverage as observed at final inspection.

3. Backflow prevention assembly testing

   a. A passing backflow prevention assembly test is required prior to issuance of a certificate of occupancy. This shall include a mechanical test of the assembly, validation of protection for the degree of hazard present, and proper installation according to manufacturer's recommendations and Town of Castle Rock requirements.

4.5.6 IRRIGATION SYSTEM OPERATION

All irrigation shall occur according to the specifications of the Town's Water Use Management Plan, including hours, days, and application rates. Irrigation systems shall be operated and maintained in a manner that meets efficient irrigation performance standards. Temporary establishment and permanent irrigation methods, as well as timing and application rates, shall be included on irrigation plans.

1. Establishment Irrigation – To be defined for each plant material type (including turf types, naturalized grasses, trees, shrubs, perennials, annuals, ground covers, etc.)

   a. Identify temporary, establishment irrigation method.

   b. Identify application rates, monthly, and annual water demand totals for establishment period.

2. Permanent irrigation – To be defined for and by each plant material type (including turf types, naturalized grasses, trees, shrubs, perennials, annuals, ground covers, etc.).

   a. Dedicated water service connections have designated watering days determined by address or location.

   b. Permissible hours of irrigation will be consistent with those outlined in the Water Use Management Plan.

   c. Seasonal application rates shall be consistent with plant water requirements identified in the Town of Castle Rock Plant List.

Section 4: General Requirements

4.6 WATER EFFICIENCY PLAN

A Water Efficiency Plan (WEP) is a component of the codes, covenants and restrictions of the development.

1. Developments with an approved Water Efficiency Plan (WEP) shall have landscape and irrigation designs exceeding current Town of Castle Rock landscape and irrigation standards.

2. Landscape Section of Water Efficiency Plans shall contain:

   a. Model landscape plans for single-family homes.

   b. Landscape typical for streetscapes.

   c. Plantings along public streets, common areas, and open space frontages, visible to the public, must be limited to native species originally found in the existing landscape. Landscape may include non-native plants specifically approved in the Town of Castle Rock Plant list and designated approved for Water Efficiency Plans.

   d. Landscape typical for development entries.

   e. Landscape typical for both public and private parks.

   f. Landscape typical for open space.

3. Irrigation Section of Water Efficiency Plans shall contain:

   a. Irrigation plans, matching corresponding landscape plans in “a” through “e” above.

   b. An irrigation chart for each service connection.

4. All landscape and irrigation plans, as part of a Water Efficiency Plan, must be approved by Castle Rock Water, Conservation Plan Review.

4.7 GENERAL MAINTENANCE

4.7.1 IRRIGATION

1. Regular maintenance of the irrigation system includes backflow prevention assembly testing, leak repair, damaged part replacement, head adjustment, filter & strainer cleaning / replacement, and application rate adjustment.

2. A completed, passing backflow prevention assembly test, consistent with the parameters outlined in the Town’s cross-connection control standards is required within ten (10) days of irrigation system start-up each season. Proper assembly operation shall also be verified through a passing backflow prevention assembly test when the assembly is taken out of service for maintenance or repair.

4.7.2 LANDSCAPE

1. All landscape improvements, indigenous plant material, and irrigation system components shall meet performance standards and supporting criteria. Violation of these standards or Criteria shall be considered a Code violation.

2. Maintenance requirements shall be noted on landscape and irrigation plans.

3. Regular maintenance shall be consistent with the needs of the plant material and may include pruning, mowing, fertilization, and weeding.

4.7.3 TURF, WOODY PLANTS, AND FERTILIZATION

1. Turf

   a. Turf shall be maintained in a manner consistent with its growth characteristics and intended use. It shall optimize sustainability through maintenance practices that encourage root development and overall plant health.

   b. Preferred mowing height is three and one-half (3-1/2) inches, in order to promote root growth and reduce water requirements.

   c. Adjust mowing frequency throughout the growing season to remove between one quarter (1/4) and one third (1/3) of the grass height per mowing, improving turf condition and reducing mowing equipment emissions.

   d. Maintain mowing equipment by sharpening mower blades, or checking reel-type mowers for proper blade to bed knife adjustment

   e. Thatch build-up shall be addressed for plant health purposes and to reduce run-off.

   f. Spring and fall aeration is recommended.

2. Woody plant material

The mature size of woody plant material shall be considered during the design process so that pruning should only be necessary due to damage or health conditions, and to encourage a natural growth habit for hedges and topiaries.

   a. Pruning practices consistent with type of tree or shrub. It is recommended to not remove more than one-third 1/3 of the branch growth.

   b. Eliminate dead and diseased plant material. If this causes significant disfigurement, replacement is necessary.

   c. Encourage naturalistic habit and reduce crowding, while controlling scale related to landscape and size relative to safety parameters (site distances, etc.).

3. Fertilization

    a. Fertilizer composition is consistent with soil test recommendations, amended soil condition, and plant material requirements.

    b. Fertilizer is applied on an as-needed basis, and excess application is avoided. Low phosphorus fertilizers are recommended.

    c. The fertilization program shall be submitted with construction document landscape plans.

4.7.4 WEED, PEST, AND DISEASE CONTROL

Shall be consistent with the approved maintenance plan for the property, and shall be in compliance with all Town, County, and State regulations.

1. All landscape areas shall be installed and maintained free of invasive species and noxious weeds.

2. Pest and disease control measures shall be taken when needed.

4.7.5 DEAD PLANT MATERIAL

Dead plant material shall be removed and replaced with healthy plant material of comparable size and species that meet the original intent of the approved landscape design within forty-five (45) days of Town being notified of a problem, or sooner in the event of a contagious disease or invasive insect species. If seasonal conditions prohibit removal and replacement, property owner may request deferral of installation.

Deferral request shall be in written form with estimated date of installation, and must be approved by the Town.

Nonliving landscape material such as rock, stone, bark chips, and shavings which no longer cover the area in which they were originally installed, shall be regularly replenished to maintain the full coverage to a minimum depth of two (2) inches for rock mulch and four (4) inches for wood mulch.

Town is not responsible for plant damage due to insects, disease, winter injury, irrigation malfunctions, or other environmental factors.

Section 5: Multi-Family Residential

5.0 INTRODUCTION

This Section describes minimum necessary performance standards and Criteria for multi-family and single-family attached residential land uses. Unless specifically called out in this Section, the general performance standards and Criteria in **Section 4** shall apply.

5.1 APPLICATION

5.1.1 APPLICABLE DWELLINGS

This Section applies to multi-family residential properties (including dwellings, parking, and common areas) within the Town limits, or served by Castle Rock Water, and includes the following:

1. Apartment complexes
2. Town homes and condominiums
3. Mobile home dwelling complexes or parks
4. This includes the types of residential properties found in the following zoning districts: R-3 Multi-Family Residence District or similarly zoned by a Planned Development. See Town of Castle Rock Municipal Code Title 17 for zoning information.

5.1.2 APPLICABLE LANDSCAPE AND IRRIGATION

1. Gross site area
2. Front, back, and side yard, including setbacks and utility easements
3. Parking lot
4. Passive recreation areas
5. Associated facilities
6. Streetscapes, rights-of-way (ROW), included with the project shall adhere to standards and Criteria in **Section 9**.

5.2 DESIGN REQUIREMENTS

This Section identifies the minimum performance standards and Criteria for landscape design for this land use.

5.2.1 LANDSCAPE DESIGN

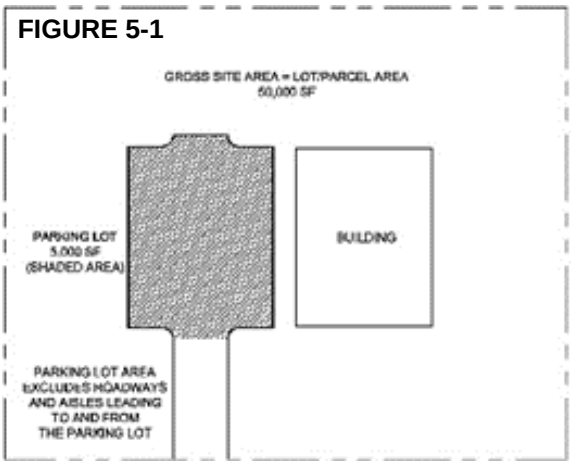
5.2.1.1 SITE REQUIREMENTS

1. Gross Site Requirements
   A minimum of twenty (20) percent of the gross site area shall receive landscape improvements. Gross site area shall exclude the right-of-way. ROW landscaping is required for adjacent streets, but is not included in the required calculation for the site. See **Section 9** for associated ROW and streetscape requirements. Gross site area may include the area required for parking lot landscaping improvements. The area required for parking lot landscaping improvements must be provided independent of other required improvements.

2. A minimum of two (2) trees and four (4) shrubs for each one thousand (1,000) square feet of landscaped area are required. See **Table 5-2**.

5.2.1.2 PARKING LOT REQUIREMENTS

1. The measured parking lot area includes the paved area and curb. Measured area excludes roadways and aisles leading to and from the parking lot. Areas to be incorporated in the calculation include landscaped islands, peninsulas, and corners internal to the parking lot (not including curb). Measured parking lot area shall not be comprised of right-of-way or detention areas. See **Figure 5-1**.



Calculation area example

2. A minimum of ten (10) percent of the parking lot area shall be landscaped. (This requirement is included in and counts towards the landscape requirements for the gross site).

a. Minimum planting requirements are two (2) large canopy trees and four (4) shrubs for each one thousand (1,000) square feet of landscaped area. One (1) additional large canopy tree may be substituted in lieu of each four (4) shrubs. See **Table 5-2**.

b. The parking lot area landscape plan shall include large canopy deciduous shade trees to reduce urban heat island effect. The landscape plan shall include a selection of large canopy deciduous shade trees that result in shade covering at least fifty (50) percent of the parking lot area at seven (7) years growth.

c. Multi-family residential projects shall use the Town of Castle Rock Multi-family Landscape Site Inventory form for landscape submittal.

TABLE 5-2

Required trees/shrubs

AREA	TOTAL AREA IN Square Feet (sf)	REQUIRED LANDSCAPE AREA	REQUIRED TREES *	PROPOSED TREES	REQUIRED SHRUBS **	PROPOSED SHRUBS
Gross Site	50,000 sf	20% = 10,000 sf	(10,000 sf /1,000 sf) x 2= 20	20	(10,000 sf / 1,000 sf) x 4 = 40	40
Parking	5,000 sf	10% = 500 sf	(500 sf / 1,000) x 2 = 1	1	(500 sf / 1,000 sf) x 4 = 2	2

Required trees/shrubs calculation example

* Required Trees = two (2) trees per one thousand (1,000) sf of landscaped area
** Required Shrubs = four (4) shrubs per one thousand (1,000) sf of landscaped area

d. Interior parking lot area landscaping (islands and peninsulas).

i. Shall be a minimum of eight (8) feet in width. Width does not include the curb.

ii. Parking areas containing more than forty (40) spaces shall provide interior landscape islands.

iii. When parking islands or peninsulas are required, there shall be no more than fifteen (15) adjacent parking spaces between landscaped islands or peninsulas.

iv. Each landscaped island or peninsula shall provide shade through a minimum of one (1) large canopy deciduous shade tree.

v. Tree requirements cannot be exchanged for other types of plant material. Small canopy trees cannot be exchanged for required large canopy deciduous shade trees.

vi. Peninsulas may only be considered part of the parking lot area landscaping when three (3) sides of the peninsula are within the parking lot area. Only the portion of the peninsula within the parking lot area shall count toward the required parking lot area landscaping.

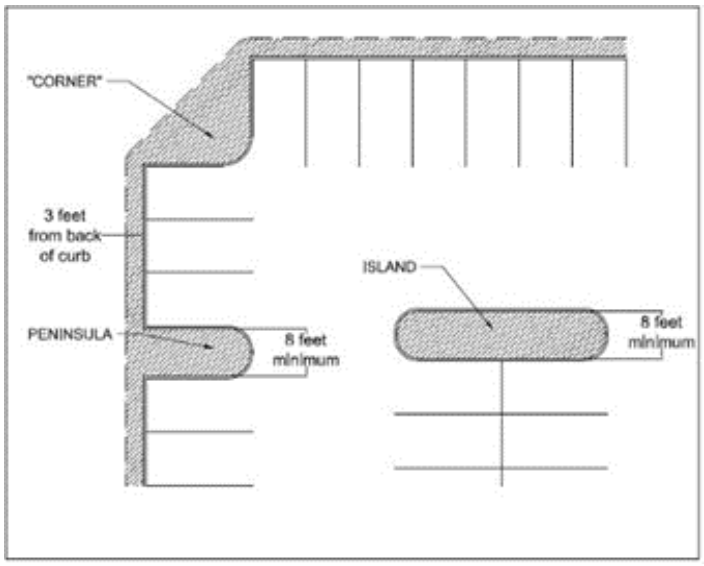
vii. Landscaped "corners" may be counted as part of the parking lot area landscaping. To be considered as part of the calculation, the landscaped corners must be surrounded on two (2) sides by parking. The corners are calculated creating a triangle using the two (2) sides adjacent to the parking lot spaces and making the third triangle leg by connecting the curb corners. See **Figure 5-2**.

viii. A three (3) foot planting area, measured from the back of curb of the parking lot, may also be considered part of the parking lot landscaping area. See **Figure 5-2**.

ix. No obstruction, landscape feature, or plant material, at mature size shall be more than thirty (30) inches above the flow line when located in a sight distance triangle adjacent to parking space access aisles.

x. Plant material located within snow storage areas shall be chosen for tolerance to snow storage.

FIGURE 5-2



Shaded areas may be counted towards parking lot landscape requirement

5.2.1.3 PASSIVE RECREATION AREA

1. Passive Recreation Areas: Multi-family land uses may have Passive Recreation Areas for their residents. Such areas may be used for non-programmed athletic activities, and may include picnic areas, small pavilions, benches, playgrounds, recreation, or play areas. The access and layout of these areas shall be designed to support Passive Recreation Area activities, including pedestrian access.

a. Passive recreation areas shall be a minimum of three thousand (3,000) square feet. The square footage configuration shall be such to support non-programmed athletic activities, such as volleyball, softball, or other recreational activities.

b. The following uses do not qualify as passive recreation areas: streetscapes, islands, or medians, landscape buffers, setbacks, parking areas, or other areas not intended or designed for recreational use.

c. Plant material used in passive recreation areas shall be consistent with the level of use by the residents.

d. Water requirements for turf used for passive recreational activity surfaces shall not exceed nineteen (19) inches of irrigation per growing season. Other plant material water demands shall not exceed fifteen (15) inches of irrigation per growing season.

e. The area shall accommodate the use of overhead irrigation (no area less than ten (10) feet in width).

f. The area shall accommodate a minimum of three (3) large canopy deciduous shade trees. One (1) additional large canopy deciduous shade tree required for each additional one thousand (1,000) square feet.

g. Passive Recreation Areas referred to in this Section are maintained by the multi-family complex or organization. They are not owned, operated, or maintained by the Town of Castle Rock.

Section 6: Single-Family and Two-Family Residential

6.0 INTRODUCTION

This Section describes minimum necessary performance standards and Criteria for single and two-family residential property land uses and recommendations for existing dwellings owned by individual homeowners. Unless specifically called out in this Section, the general performance standards and Criteria in **Section 4** shall apply.

6.1 APPLICATION

6.1.1 APPLICABLE DWELLINGS

Applicable dwellings are new homes constructed by a developer, residential homebuilder, organization, custom homebuilder, semi-custom homebuilder, and homeowners.

This Section applies to single-family and two-family residential properties within the Town limits, or served by Castle Rock Water, and includes the following:

1. Single-family dwelling, attached
2. Single-family dwelling, detached
3. Duplex
4. Paired home
5. This includes the types of residential properties found in the following zoning districts: R-1 Single-family Residence District and R-2 Single-family and Duplex Residence District or as similarly zoned by a Planned Development. (See Town of Castle Rock Municipal Code Title 17 for zoning information).

6.1.2 APPLICABLE LANDSCAPE AND IRRIGATION

1. Front, back, and side yards where landscape or irrigation are provided in new home construction, renovation, or maintenance.
2. All setbacks and utility easements where provided in new home construction, renovation, or maintenance.

6.2 DESIGN REQUIREMENTS

This Section identifies the minimum performance standards and Criteria for landscape design, irrigation design, and maintenance for this land use.

6.2.1 LANDSCAPE DESIGN

1. Site Requirements
    a. Trees - A minimum of one (1) large canopy deciduous shade tree shall be provided in the front yard setback. Tree requirements cannot be exchanged for other types of plant material. Small canopy trees cannot be exchanged for required large canopy deciduous shade trees. NOTE: Sizing requirements for single-family residential front yard tree shall be adhered to by all builder installations.

b. Shrubs - A minimum of four (4) shrubs are required for each large canopy deciduous shade tree.

c. Diversity requirements for trees and shrubs are contained in **Section 4**, and are applicable to installation of tract home landscaping.

d. Irrigated Turf Areas – Moderate and low water use turf and alternative turf are required. Kentucky Bluegrass and turf varieties that use more than nineteen (19) inches of water are not allowed. See Appendix B.

e. Turf shall be limited as outlined in **Table 6-1**:

TABLE 6-1

Lot Size	Maximum Percentage of Turf	Example
7,000 sq. ft. or less	30%	7,000 sq. ft. x .30 = 2,100 sq. ft.
7,001 - 17,000 sq. ft.	20%	17,000 x .20 = 3,400 sq. ft.
Over 17,000 sq. ft.	20%; not to exceed 5,000 sq. ft.	

f. Areas devoted to the cultivation of native or naturalized grasses shall be exempt from square footage limitations. Large lots are encouraged to use irrigated native grass to reduce inorganic mulches (e.g. crushed granite, cobble)

i. Landscaping or landscape materials shall be no more than thirty (30) inches above the flow line when located in a sight distance triangle.

6.2.2 IRRIGATION DESIGN

This Section identifies performance standards and Criteria for single-family and two-family residential irrigation systems including control, methods, equipment, and system efficiency.

1. General Design

Unless otherwise specified within a particular land use, the Criteria within this Section shall apply to design and installations by developers, home builders, and homeowners.

a. Landscaped areas shall have a permanent water efficient irrigation system providing full coverage to all plant material. Unless otherwise approved, this irrigation shall be an automatic irrigation system.

b. The water service connection that provides water for irrigation shall be sized appropriately to accommodate irrigation during the hours and days outlined in the Town's Water Use Management Plan.

c. All water used for irrigation shall be metered and have appropriate backflow prevention as identified by Town regulations. Cross-connection control requirements shall be adhered to by all installations within this category, including homeowner installations.

d. Maximum velocity should be determined by American Water Works Association standards, Town water Criteria, Town adopted plumbing code, and meter manufacturer operating standards. Flow rates should average no more than five (5) feet per second and shall not exceed seven and one half (7½) feet per second for intermittent flow.

e. Irrigation mains cannot intersect with other irrigation mains serviced off another service connection.

f. Irrigation shall be hydrozoned, grouping similar water demands and exposure by irrigation zone.

g. Irrigation methods:

   i. Only drip or sub-surface irrigation systems will be allowed in areas less than ten (10) feet in width.

   ii. Irrigation is not allowed in areas less than four (4) feet in width.

2. Irrigation System Control

a. WI-FI enabled smart irrigation controllers, capable of interval watering, are required. This requirement shall be adhered to by all installations within this category, including homeowner installations.

b. Due to common power outages, battery back-up or non-volatile memory is required on all controllers. This requirement shall be adhered to by all installations within this category, including homeowner installations.

c. Upon installation the landscape / irrigation installer shall program the controller to meet Water Use Management Plan requirements.

d. Irrigation exemptions for establishment of plant material may be granted. Should the installer set the controller in accordance with an irrigation exemption for plant material establishment, the installer shall return to re-program the controller upon expiration of exemption, or instruct the homeowner to do so.

e. The builder or landscaper should assist in educating the customer about watering restrictions in Castle Rock. The homeowner shall be responsible for compliance with water restriction regulations.

3. Irrigation System Design

a. Resilient shut off valve with manual drain, or stop and waste, is required to isolate the irrigation system from the domestic plumbing system.

b. All irrigation systems shall be contained by the appropriate backflow prevention assembly. See the Town's Cross-Connection Control requirements in the Town Municipal Code Chapter 13.06.

c. Master valves and flow sensors are recommended.

d. Rain sensors are required.

e. Overhead irrigation.

i. Overhead irrigation is not allowed in areas less than ten (10) feet.

ii. Pop-up height shall be consistent with the mature height of the plant material being irrigated. Minimum pop-up height of six (6) inches or higher is required for plant material unless the plant material is natively maintained native grass or wildflowers, where a minimum pop-up height of twelve (12) inches is required.

iii. Pop-up spray heads shall be equipped with internal check valves, internal pressure regulation and matched precipitation rate spray or rotary nozzles. Pressure regulation must be consistent with manufacturer's recommendations for the selected nozzle.

iv. Rotors shall be equipped with internal check valves and pressure regulation.

f. Drip irrigation

i. Drip irrigation shall be point source drip or sub-surface drip irrigation for all trees, shrubs, perennial, and annual beds.

ii. Drip emitters and sub-surface drip shall be equipped with internal check valves at each emitter.

iii. Sub-surface drip irrigation may be used for turf or grass areas.

g. Bubblers may be substituted for drip emitters where necessary to provide adequate irrigation to plant material in certain locations (i.e. trees in native grass areas).

h. Irrigation charts and hydraulic worksheets may be required for plan submittal.

4. Irrigation system installation

Irrigation system shall meet Town performance standards and Criteria prior to issuance of certificate of occupancy or other Town approval. Release of bonding or surety shall be withheld until approval is given.

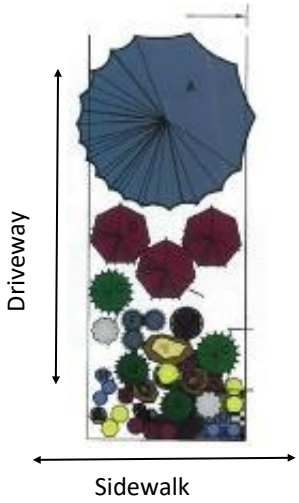
a. Irrigation system installation shall be consistent with approved system design.

b. A passing backflow prevention assembly test is required prior to issuance of a Certificate of Occupancy or other Town approval. The results shall include a mechanical test of the assembly, validation of protection for the degree of hazard present, and proper installation according to manufacturer's recommendations and Town of Castle Rock requirements. Homeowner installations shall adhere to Cross-Connection Control requirements.

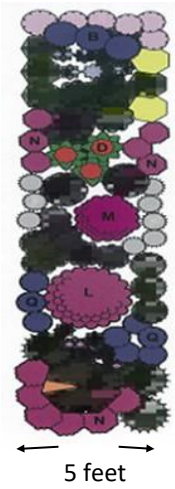
5. Irrigation system operation

All irrigation shall occur according to the specifications of the Town's Water Use Management Plan including hours, days, and application rates. Irrigation systems shall be operated and maintained in a manner that meets efficient irrigation performance standards. Temporary establishment, and permanent irrigation methods, timing, and application rates shall be included on irrigation plans.

FIGURE 6-1



Potential narrow strip design options featuring ColoradoScape plant materials and drip irrigation.



a. Temporary irrigation (establishment) is to be defined for and by each plant material type (including turf types, naturalized grasses, trees, shrubs, perennials, annuals, ground covers, etc.).

   i. Identify temporary establishment irrigation method.

   ii. Duration of establishment period to be determined by the temporary irrigation criteria.

   iii. Identify application rates, monthly and annual water demand totals for establishment period.

b. Permanent irrigation is to be defined for and by each plant material type (including turf types, naturalized grasses, trees, shrubs, perennials, annuals, ground covers, etc.).

   i. Watering days and times to be outlined in the Town of Castle Rock Water Use Management Plan.

   ii. Seasonal application rates shall be consistent with the Town of Castle Rock Plant List.

Section 7: Non-Residential Properties

7.0 INTRODUCTION

This Section describes minimum necessary standards and Criteria for non-residential properties such as commercial development, such as a business, industrial, governmental, school, religious institution, or mixed uses. Unless specifically called out in this Section, the general performance standards and Criteria in **Section 4** shall apply.

7.1 APPLICATION

7.1.1 APPLICABLE USES

This Section applies to non-residential properties and zoning districts within the Town limits, and / or served by Castle Rock Water, such as, but not limited to the following:

1. Business/commercial district uses
2. Industrial
3. Governmental
4. Schools
5. Religious institutions
6. Mixed use containing one or more of the above uses
7. This includes the types of Non-residential properties found in the following zoning districts: B Business Commercial District, I-1 Light Industrial District, I-2 General Industrial District, similarly zoned by a Planned Development or an Overlay District. (See Town of Castle Rock Municipal Code Title 17 for zoning information).

7.1.2 APPLICABLE LANDSCAPE

1. Gross site area
2. Front, back, and side yards, including setbacks and utility easements
3. Parking lot
4. Common areas.

Streetscapes included with the project shall adhere to the performance standards and Criteria in **Section 9**.

Dependent on design, schools with passive parks or passive recreation areas and / or active sports fields, may require adherence to the performance standards and criteria in **Section 10**.

7.2 DESIGN REQUIREMENTS

7.2.1 LANDSCAPE DESIGN

Unless otherwise specified within a particular land use, the performance standards and Criteria shall apply to all non-residential land uses within this Section.

7.2.1.1 SITE REQUIREMENTS

1. Performance Standards

   a. Plant material diversity creates visual appeal and limits disease and other environmental problems.

   b. Plant material diversity creates a seasonal appearance of greenery throughout the year.

2. Criteria

   a. A minimum of ten (10) percent of the gross site area shall receive landscape improvements.

      i. Gross site area does not include adjacent streetscapes or rights-of-way. Plantings in these areas must follow the standards in **Section 9**.

      ii. Plantings in adjacent streetscapes, rights-of-way, or tracts along rights-of-way do not count toward the site requirements herein.

      iii. Landscaping in the parking lot may be counted toward the minimum gross site area requirement.

   b. A minimum of two (2) large canopy deciduous shade trees and four (4) shrubs for each one thousand (1,000) square feet of required landscaped area shall be provided. See example in **Table 7-1.**

      i. Fifty (50) percent of the tree requirement must include large canopy deciduous shade trees.

      ii. One (1) additional large canopy deciduous shade tree may be substituted in lieu of each four (4) required shrubs.

      iii. Tree requirements cannot be exchanged for other types of plant material.

7.2.1.2 PARKING LOT REQUIREMENTS

1. Performance Standards

   a. Trees shall reduce urban heat-island effect.

   b. Trees shall not cause snow build-up or ice problems.

c. Plant material shall accommodate environmental conditions associated with parking lots, including heat-island effect and snow storage.

d. Trees shall not interfere with driver visibility of pedestrians or drive-aisle traffic.

e. Stormwater design and materials shall consider levels of foot traffic and shall not create pedestrian safety hazards.

2. Criteria

a. A minimum of ten (10) percent of the parking lot area shall be landscaped. (This requirement is included within and counts toward the minimum gross site area requirements.

i. The measured parking lot area includes the paved area and curb. The measured parking lot area excludes roadways and aisles leading to and from the parking lot. Areas to be incorporated in the parking lot landscape area calculation include landscaped islands, peninsulas, and corners internal to the parking lot (not including curb). Right-of-way or detention areas shall not be incorporated in the parking lot landscape calculation.

1. Islands surrounded on all sides by parking spaces or drive aisles.

2. Peninsulas may only be considered part of the parking lot landscaping area when three (3) sides of the peninsula are within the parking lot area.

3. Corners may only be considered part of the parking lot landscaping area when the corner is surrounded on two (2) sides by parking. Landscape corners are calculated creating a triangle using the two sides adjacent to the parking lot spaces or drive aisle and making the third triangle leg by connecting the curb corners. See **Figure 7-2**.

4. A three (3) foot wide planting area, measured from the back of curb of the parking lot, may also be counted as part of the provided parking lot landscape area. See minimum planting areas in **Section 4**.

b. A minimum of two (2) large canopy deciduous shade trees and four (4) shrubs for each one thousand (1,000) square feet of required landscaped area shall be provided.

c. Landscape islands must contain a minimum of one (1) large canopy deciduous shade tree and four (4) shrubs.

i. One (1) additional large canopy deciduous shade tree may be substituted in lieu of each of the four (4) required shrubs. See chart in **Table 7-1**.

ii. Large canopy deciduous shade tree requirements cannot be exchanged for small canopy trees.

iii. Landscape islands shall be a minimum of eight (8) feet in width. Width does not include curb.

d. Parking lots containing more than forty (40) spaces shall provide interior landscape islands. When parking lot islands are required, there shall be no more than fifteen (15) adjacent parking stalls between landscape islands.

e. Evergreen trees shall not be located in parking lot islands or areas that block sight lines.

f. Landscape features over thirty (30) inches high above the flow line are not permitted in sight distance triangles adjacent to parking space access aisles.

g. Plant material located within snow storage areas shall be chosen for tolerance to snow storage.

h. The parking lot area landscape plan shall include large canopy deciduous shade trees to reduce urban heat island effect.

Table 7-1

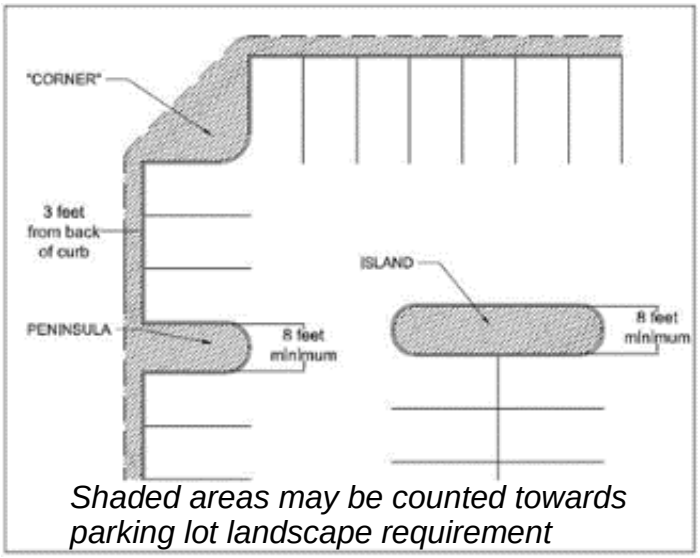
AREA	TOTAL AREA IN SQUARE FEET (sf)	REQUIRED AREA (10%)	REQUIRED TREES *	PROPOSED TREES	REQUIRED SHRUBS **	PROPOSED SHRUBS
Gross Site	50,000 sf	5,000 sf	(5,000 sf /1,000 sf) x 2 = 10	10	(5,000 sf / 1,000 sf) x 4 = 20	20
Parking	5,000 sf	500 sf	(500 sf / 1,000) x 2 = 1	1	(500 sf / 1,000 sf) x 4 = 2	2

Required trees/shrubs calculation example

* Required Trees = 2 trees per 1,000 sf of required area

** Required Shrubs = 4 shrubs per 1,000 sf of required area

FIGURE 7-2



Shaded areas may be counted towards parking lot landscape requirement

Section 8: Urban Areas

8.0 INTRODUCTION

An Urban Area is a focused development that has limited open space, primarily contains a mix of non-residential uses, but may integrate residential uses, that combines the uses in a way which considers character, local identity, heritage, pedestrians, and traffic. Urban Areas include the Downtown Overlay district, the Wolfensberger North Zoning Overlay district, or other dense mixed-use areas as determined by the Town.

This Section describes minimum necessary performance standards and Criteria for site and streetscape landscaping for Urban area uses not specifically addressed within the Castle Rock Municipal Code. Unless specifically called out in this Section, the general performance standards and Criteria in **Section 4**, **Section 5**, **Section 7**, and **Section 9** shall apply.

8.1 APPLICATION

8.1.1 APPLICABLE USES

This Section applies to Urban Areas as determined by the Town, or served by Castle Rock Water. Urban and vertical uses with approved Overlay District Criteria shall adhere to all standards and Criteria herein unless otherwise called out in approved Overlay District Criteria. Refer to Municipal Code for specific Overlay District requirements.

8.2 DESIGN REQUIREMENTS

8.2.1 LANDSCAPE DESIGN

Unless otherwise specified within a particular land use, the Criteria within this Section shall apply to all land uses within this Section.

1. Performance Standards

   a. Landscaping shall create an aesthetically pleasing, pedestrian friendly, urban environment for people to walk and shop.

   b. Landscape plantings shall focus on building frontage and pedestrian corridors.

   c. Streets shall be lined with trees, focusing on large canopy deciduous shade trees.

   d. A tree canopy between on-street parking and store fronts creates a separation between cars and sidewalks and provides shade.

   e. Shrubs provide for screening.

   f. Perennials provide color and texture.

   g. Groundcovers provide texture, depth and soil cooling.

   h. Adequate growing space and soil amendment support the establishment and mature growth of plant material.

2. Criteria

a. Minimum Planting Requirements

i. For minimum plant material and quantity requirements for the Downtown Overlay District, see Municipal Code 17.46.

ii. For minimum plant material and quantity requirements for the Wolfensberger North Zoning District, see Municipal Code 17.42.

iii. For other Urban Areas, as determined by the Town, see **Section 7** for minimum tree and shrub requirements for the site, and **Section 9** for minimum tree and shrub requirements for the streetscape.

b. Trees

i. Large canopy deciduous shade trees shall be spaced no more than forty (40) feet apart in the streetscape.

ii. Tree planting strips less than eight (8) feet wide shall have CU^{TM} Structural Soil.

c. Street Trees

i. There shall be four (4) shrubs for every tree.

ii. If an Overlay District requires potted plants the following apply:

1. One percent of the total landscaped area is required to be planted in a summer flowering xeric perennial or annual plant.

2. Flowering plants should be planted in window boxes, clay pots, or raised beds.

3. Containers shall be able to drain water and contain the necessary amount of soil to grow healthy plants, however should not create water waste.

4. Flowers should face the street or sidewalk adjacent to the property or the business entrance.

d. Tree Grates

i. Tree grates or similar planting sections are allowed in Urban Area streetscapes only and shall accommodate mature tree canopy.

ii. Tree grates shall be a minimum of five (5) feet by five (5) feet.

iii. All trees in grates shall be a minimum of three (3) inch caliper, measured six (6) inches above the ground.

iv. Tree species is limited to trees identified in the approved Town of Castle Rock plant list, as appropriate for urban environments and narrow street tree planting strips.

e. Other

i. Plant material, other than trees, may be installed in areas less than four feet in width. Mature plant sizes shall be utilized to design urban planting areas. See Town of Castle Rock Plant list for mature plant sizes.

ii. Provide adequate plant material for eighty (80) percent coverage within five (5) years.

iii. Provide a mechanism for the specific needs for long-term maintenance of landscaping within the urban environment.

iv. Provide regularity of watering, especially in planting vault situations with CU™ Structural Soil as CU™ Structural Soil does not hold water as well as standard soil.

v. Areas less than four (4) feet in width along collector or arterial streets shall be hardscaped with stamped concrete, unit pavers, grouted cobble, or flagstone.

8.2.2 IRRIGATION DESIGN

i. See **Section 4**.

Section 9: Streetscapes, Rights-of-Way, and Tracts along the Rights-of-Way

9.0 INTRODUCTION

This Section describes minimum necessary performance standards and Criteria for streetscapes, rights-of-way, and tracts along rights-of-way. Unless specifically called out in this Section, the general performance standards and Criteria in **Section 4** shall apply. For minimum necessary performance standards and Criteria for Urban Area streetscapes see **Section 8**. This Section shall not apply to Town of Castle Rock Capital Improvement Program projects.

9.1 APPLICATION

9.1.1 APPLICABLE USES

This Section applies to all Streetscapes, Rights-of-way, and Tracts along Rights-of-Way within the Town limits or served by Castle Rock Water.

1. Streetscapes
2. Rights-of-way
3. Tracts along rights-of-way within the Town limits and / or areas served by Castle Rock Water

9.1.2 APPLICABLE LANDSCAPE AND IRRIGATION

1. Street Tree Planting Strips
2. Right-of-way area between sidewalk and private property
3. Tracts along rights-of-way
4. Planting strips on private property, along rights-of-way
5. Entry streets

9.2 DESIGN REQUIREMENTS

This Section identifies the minimum performance standards and Criteria for landscape design and irrigation design for streetscapes, rights-of-way, and tracts along rights-of-way.

9.2.1 LANDSCAPE DESIGN

Unless otherwise specified within a particular land use, the Criteria within this Section shall apply to all land uses within this Section. In addition, Overlay Districts shall adhere to these performance standards and Criteria unless specifically called out otherwise in the Overlay District.

1. Overall

    a. Performance Standards

        i. Plant material diversity creates visual appeal and limits disease and other environmental problems.

ii. Plant material shall create a seasonal appearance of greenery throughout the year.

iii. Plant material shall accommodate environmental conditions associated with streetscapes and rights-of-way, including heat, salts, chemicals, pollution, and snow removal.

iv. Sight distance triangles are free from visual obstructions and provide a safe view of traffic and pedestrians.

v. Town water, sanitary sewer, and drainage infrastructure are protected and able to be maintained or replaced.

vi. Design shall accommodate efficient irrigation and eliminate run-off.

vii. Medians and round-a-bouts in rights-of-way provide visual appeal, using inorganic material.

viii. Plant material for entry streets enhance neighborhood character.

ix. Promote ColoradoScape design elements.

b. Criteria

i. Living plant material, which requires permanent irrigation, is not permitted within medians and round-a-bouts in rights-of-way.

ii. Traditional turf grass is prohibited. Plant material within the streetscape must be hydrozone one (1) or two (2) from the Town of Castle Rock plant list.

iii. Maximum number of species per deciduous and evergreen plantings shall follow diversity requirements in **Section 4**.

iv. Slopes steeper than 3:1 are not permitted.

v. Landscaping or landscape features over thirty (30) inches high above the flow line are not permitted in sight distance triangles. Length of sight distance triangles are dependent upon street classification. For length calculation information see Intersection Safety Triangles in the Transportation Design Criteria Manual.

vi. Trees, large shrubs, or permanent objects are not permitted within wet utility easements.

vii. Landscape design shall meet the requirements of the Composite Landscape Water Use Rating (CLWUR) per Town of Castle Rock Municipal Code Chapter 13.20.

viii. When implementing ColoradoScape design, soil amendment shall be four (4) cubic yards of organic material per one thousand (1,000) square feet, rototilled to a minimum depth of six (6) inches.

ix. A minimum coverage of 75 percent live plant material (at maturity) is required; no more than 25 percent may be non-living materials, including organic mulch and rock.

2. Street Trees

a. Performance Standards

i. Tree type and spacing provides a continuous tree canopy over the streetscape.

ii. Trees do not interfere with driver visibility of pedestrians, oncoming traffic, traffic control devices, or regulatory signs.

iii. Trees are planted within adequate space and soil to provide for healthy mature spread.

iv. A clear and safe walking zone between trees and pedestrians, and trees and structures, including buildings and fences, is provided.

v. Trees provide shade, but do not cause snow build-up or icing on the street, sidewalk, or right-of-way, particularly for north facing areas.

b. Criteria

i. Required Street Trees.

1. A minimum of one (1) tree for every forty (40) linear feet of ROW is required.

2. A tree planted within the front yard of a private property may be counted toward the minimum tree requirement.

a. For streets with attached sidewalks, a tree planted within sixteen (16) feet from back of street curb.

b. For streets with detached sidewalks, a tree planted within twelve (12) feet from back of sidewalk. See **Figure 9-1**.

3. 75% of street trees shall be large canopy deciduous shade trees.

4. Alternative plant material cannot be substituted for any tree requirement.

5. All deciduous large and small canopy trees must be permanently irrigated.

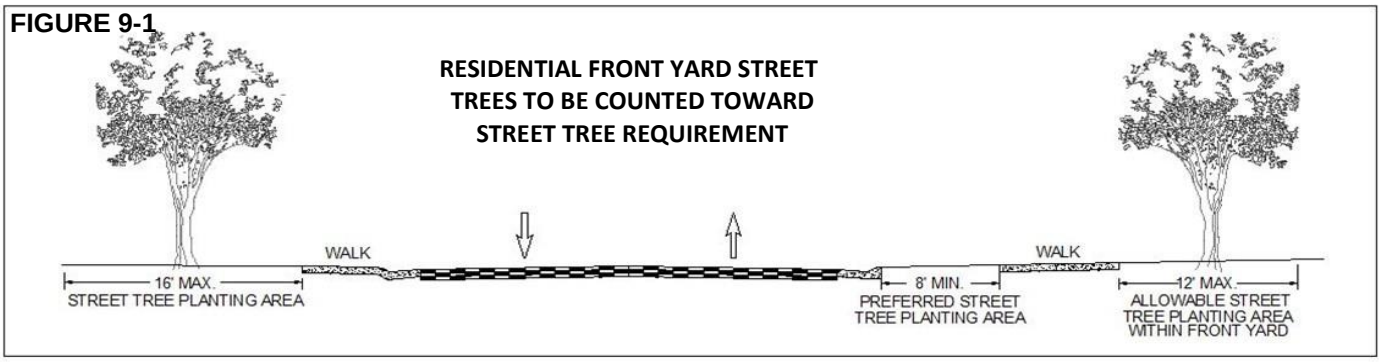
ii. Street Tree Spacing.

1. Trees, when possible, shall be regularly spaced no more than forty (40) feet apart.

2. Deciduous ornamental (small canopy) trees shall be spaced no more than twenty-five (25) feet apart.

3. Spacing may be adjusted for driveways and streetlights.

FIGURE 9-1



4. Grouping of trees may be permitted where regular spacing cannot be accomplished or to achieve a desired design aesthetic.

5. There shall be no gap between trees greater than one hundred and twenty (120) feet.

iii. Street Tree Planting Location

1. Trees shall be planted on both sides of a detached sidewalk, where feasible.

2. Trees shall be planted a minimum of forty-two (42) inches from the face of a street curb, whenever possible.

3. Trees shall not be planted closer than thirty (30) feet from the face of a street curb at intersections and street corners.

4. Under no circumstance shall trees be planted within sight distance triangles. Evergreen trees shall be planted away from sight distance triangles to not cause encroachment of branches into sight distance triangles.

5. For non-residential properties, trees shall not be planted closer than ten (10) feet from streetlights.

6. Evergreen trees shall be planted away from the street and sidewalk edge to not cause snow build-up or icing problems.

7. A minimum distance of ten (10) feet shall be provided between trees and buildings or trees and fences.

8. Trees and large shrubs shall not be planted in wet utility easements, or within ten (10) feet of water, wastewater, or stormwater infrastructure.

9. Trees planted near sidewalks shall be fruitless.

iv. Street Tree Branching Height

1. On the traffic side of the sidewalk, the branching height of mature trees shall be no less than thirteen and one half (13 ½) feet above the street.

2. On the non-traffic side of the sidewalk, the branching height of mature trees shall be no less than eight (8) feet above the sidewalk. See **Figure 9-2**.

v. Street Tree Planting Strips

1. Large Canopy Deciduous Shade Trees

   a. For local streets the minimum width of planting strips, to include large canopy deciduous shade trees, shall be eight (8) feet. See **Figure 9-3**.

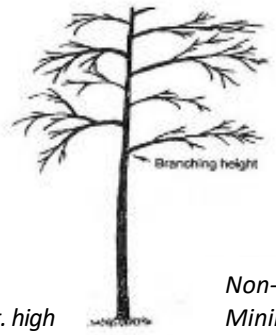
   b. For collector and arterial streets, the minimum width of planting strips, to include large canopy deciduous shade trees, shall be ten (10) feet. See **Figure 9-4**.

   c. Large canopy deciduous shade trees planted in areas less than eight (8) feet are required to use CU™ Structural Soil. For Urban Areas, see **Section 8**.

2. Ornamental Trees

   a. For local, collector, and arterial streets the minimum width of planting strips for ornamental trees shall be six (6) feet.

FIGURE 9-2



Traffic side
Minimum 13.5 ft. high

Non-traffic side
Minimum 8 ft. high

Branching height requirements to create a clear zone

FIGURE 9-3

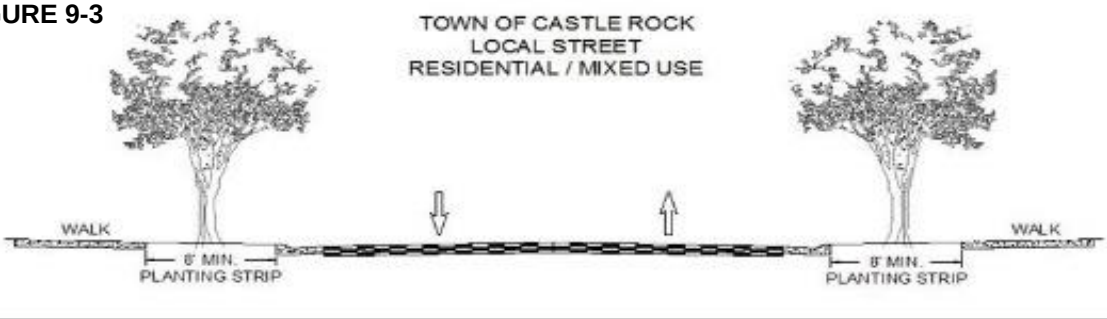
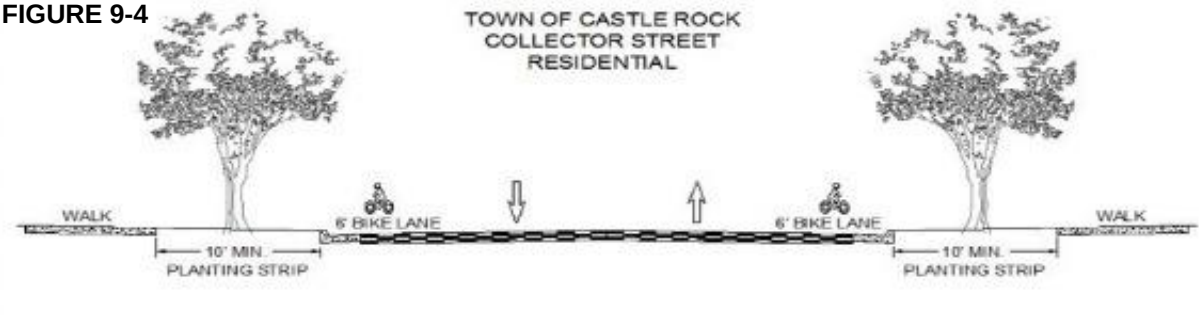


FIGURE 9-4



3. Streetscape Shrubs

   a. Performance Standards

      i. Shrubs shall not interfere with driver visibility of pedestrians, oncoming traffic, traffic control devices, or regulatory signs.

      ii. Shrubs shall provide a variety of height and color variations to create visual appeal, limit disease, and other environmental problems.

      iii. Shrubs shall be planted within adequate space and soil to provide for healthy mature spread.

   b. Criteria

      i. Required Shrubs

         1. A minimum of four (4) shrubs per one (1) tree is required.

         2. One (1) ornamental grass of equal size at planting may be substituted for one (1) shrub.

         3. One (1) additional tree may be substituted for four (4) shrubs.

         4. Large shrubs shall not be planted in vehicular access easements or wet utility easements.

         5. Where an easement does not exist, large shrubs must not be within ten (10) feet of water, wastewater, or stormwater infrastructure.

4. Groundcover

    a. Performance Standards

        i. Groundcover design and materials shall consider levels of foot traffic and shall not create pedestrian safety hazards.

        ii. Ground cover shall create a consistent coverage of material.

    b. Criteria

        i. Traditional turf grass is prohibited. A native hydrozone one (1) or two (2) plant material is required.

        ii. Areas less than four (4) feet in width along local streets shall contain inorganic mulch, (rock, gravel, or cobble).

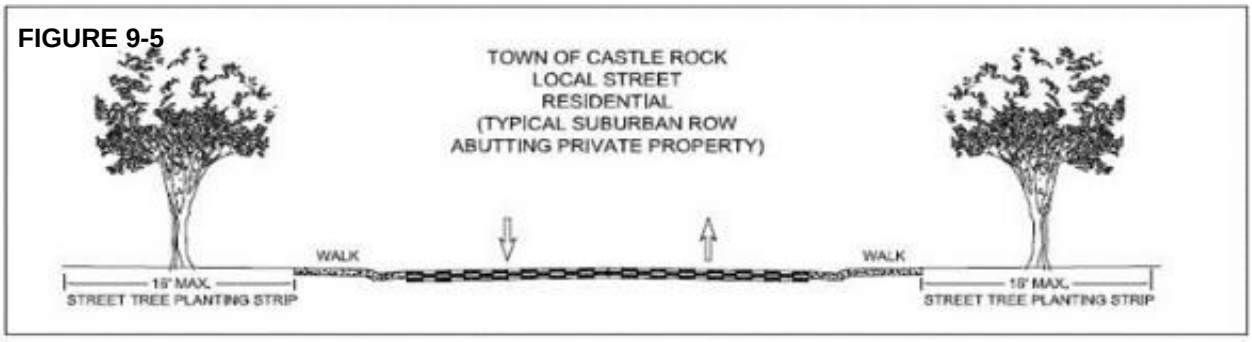
        iii. Cobble is discouraged in areas of pedestrian ingress and egress.

        iv. Cobble shall be grouted for safety as determined by the Town.

9.2.2 IRRIGATION DESIGN

This Section describes minimum necessary performance standards and Criteria for streetscapes, rights-of-way, and tracts along rights-of-way land uses. Unless specifically called out in this Section, the general irrigation design requirements in **Section 4** shall apply.

FIGURE 9-5



1. Overall

    a. Performance Standards

        i. All plant material shall be irrigated per hydrozone as listed in the Town of Castle Rock Plant List.

        ii. Irrigation provides appropriate amount of water based on water demands of groups of plantings. These groups of plantings shall maintain optimal health and appearance.

        iii. The irrigation design accommodates efficient irrigation and minimizes run-off onto streets or sidewalks.

b. Criteria

i. A permanent water efficient irrigation system, providing full coverage to all plant material is required.

ii. Drip or sub-surface irrigation is required in areas greater than four (4) feet and less than ten (10) feet in width. Overhead irrigation is not permitted in these areas.

iii. Permanent irrigation is not permitted in areas less than four (4) feet in width.

iv. Permanent irrigation is not permitted in medians or round-a-bouts.

v. Irrigation shall be hydrozoned, grouping similar water demands by irrigation zone.

vi. Irrigation design shall meet the requirements of the Composite Landscape Water Use Rating (CLWUR) per Town of Castle Rock Municipal Code Chapter 13.20.

9.3 RESPONSIBLE PARTY

This Section describes who is responsible for the design, installation, and maintenance of landscape and irrigation of streetscape, rights-of-way and tracts along rights-of-way land uses by street type.

9.3.1 DESIGN AND INSTALLATION OF LANDSCAPE AND IRRIGATION RESPONSIBILITY

Design and installation of utility and irrigation sleeving is the responsibility of the initial Developer and must be completed prior to the construction of streets, curb and gutter, and sidewalk.

1. Local streets

   a. Residential

      i. With attached sidewalk – the Builder or adjacent homeowner

      ii. With detached sidewalk – the Developer or Builder

   b. Non-residential including Mixed use / residential – the Developer or Builder

2. Arterial and Collector streets – the vertical Developer of the individual parcel adjacent to the right-of-way.

3. Entry streets, Medians and Round-a-bouts – the vertical Developer of the individual parcel adjacent to the right-of-way.

9.3.2 MAINTENANCE OF LANDSCAPE AND IRRIGATION

Maintenance of Landscape and Irrigation shall comply with approved plans and adhere to all standards and Criteria herein.

1. Local streets
    a. Residential
        i. With attached sidewalk – the adjacent homeowner shall be responsible for maintenance of the streetscape in the right-of-way area, between sidewalk and private property and / or planting strips on private property along the right-of-way (see **Figure 9-5**).
        ii. With detached sidewalk – an HOA, Metro District or other similar entity.
    b. Non-residential, including Mixed use / residential – the adjacent property owner or a property maintenance association, Metro District, or other similar entity.
2. Arterial and Collector streets – an HOA, Metro District, or other similar entity.
    a. Entry Streets, Medians, and Round-a-bouts – an HOA, Metro District, or other similar entity.

Section 10: Parks, Sports Fields, and Golf

10.0 INTRODUCTION

This Section describes minimum necessary performance standards and Criteria for design, and maintenance responsibility for park, sport field, and golf course land uses. Unless specifically called out in this Section, the general performance standards and Criteria in **Section 4** shall apply.

10.1 APPLICATION

10.1.1 APPLICABLE USES

This Section applies to parks, sports fields, and golf courses within the Town limits or served by Castle Rock Water, and includes the following:

1. Passive Parks
2. Passive Recreation Areas
3. Active Parks
4. Sports Fields, public or private
5. Golf courses, public or private

10.1.2 APPLICABLE LANDSCAPING AND IRRIGATION

1. Passive Parks
2. Passive Recreation Areas
3. Active Parks
4. Sports Fields
5. Golf Courses
6. Trails within these areas

10.2 DESIGN REQUIREMENTS

This Section identifies the minimum performance standards and Criteria for landscape and irrigation design for parks, sports fields, and golf courses.

10.2.1 LANDSCAPE DESIGN

Unless otherwise specified within a particular land use, this Criteria shall apply to all land uses within this Section. Urban and vertical uses with approved overlay district criteria shall adhere to all standards and criteria unless called out in approved overlay district criteria.

1. Passive Parks and Passive Recreation Areas.

    a. Performance Standards

        i. These areas shall be designed to support such intended activities of the area, including layout and pedestrian access.

ii. Tree type and placement is intended to provide shade.

iii. A seasonal appearance of greenery throughout the year shall be provided.

b. Criteria

i. These areas shall meet the minimum site requirement of no less than three thousand (3,000) square feet. The following uses may not be counted toward the square foot requirement: streetscapes, islands, buffers, building setbacks, parking areas, detention ponds, or other areas not intended and designed for these uses.

ii. A minimum of one (1) large canopy deciduous shade tree per one thousand (1,000) square feet shall be provided.

iii. Where native grasses are permitted, trees and shrubs must have the same Hydrozone as the native grasses.

2. Active Parks and Sports Fields public or private. Such areas are used for programmed athletic activities, and may include baseball, softball, football, soccer, or other programmed sports activities.

a. Performance Standards

i. These areas shall be designed to support such intended activities of the area, including layout and pedestrian access.

ii. Tree type and placement is intended to provide shade.

iii. A seasonal appearance of greenery throughout the year shall be provided.

iv. The use of artificial turf on sports fields is encouraged.

v. Plant material shall tolerate high traffic and active use.

vi. Surrounding areas may be used for more passive recreation activities and site access.

b. Criteria

i. For Active Parks, a minimum of one (1) large canopy deciduous shade tree per one thousand (1,000) square feet of irrigated area is required.

ii. Where native grasses are permitted, trees and shrubs must have the same Hydro-zone as the native grasses.

3. Golf Courses. The Performance Standards and Criteria for Golf Courses are approved on a case by case basis, usually through a development agreement.

10.2.2 IRRIGATION DESIGN

1. Passive Parks and Passive Recreation Areas.

    a. Criteria

        i. All plant material in these areas shall be permanently irrigated by a dedicated irrigation service connection with an automatic irrigation system.

        ii. All water requirements for turf shall not exceed nineteen (19) inches of irrigation per growing season.

        iii. Aesthetic and ornamental plant material water demands shall not exceed fifteen (15) inches of irrigation per growing season. Note: Area shall be included in the Composite Landscape Water Use Rating (CLWUR) development.

2. Active Parks and Sports Fields.

    a. Criteria

        i. All plant material in these areas shall be permanently irrigated by a dedicated irrigation service connection with an automatic irrigation system.

        ii. Water allocation for Active Parks and Sports Fields shall provide for plant materials that tolerate high traffic and active use. Note: Area shall be included in CLWUR development.

3. Golf Courses.

    a. Criteria

        i. All plant materials in golf courses shall be permanently irrigated by a dedicated irrigation service connection with an automatic irrigation system.

        ii. Irrigation of golf courses shall be accomplished by a non-potable water source, as approved by the Town.

10.3 MAINTENANCE

10.3.1 PASSIVE PARKS AND PASSIVE RECREATION AREAS

1. Areas owned by a homeowner's association (HOA), a metro district, or other similar entity shall maintain landscape and irrigation to standards and Criteria contained herein.

2. Areas owned and maintained by the Town shall maintain landscape and irrigation to the standards and Criteria defined by the Town Parks and Recreation Department.

10.3.2 ACTIVE PARKS AND SPORTS FIELDS

1. Areas owned and maintained by a homeowner's association (HOA), a metro district, or other similar entity shall maintain landscape and irrigation to standards and Criteria contained herein.

2. Areas owned and maintained by the Town shall maintain landscape and irrigation to standards and Criteria defined by the Town Parks and Recreation Department.

3. Areas owned and maintained by a school district shall maintain landscape and irrigation to the standards and Criteria contained herein.

10.3.3 GOLF COURSES

1. Areas owned and maintained by a homeowner's association (HOA), a metro district, or other similar entity shall maintain landscape and irrigation to standards and Criteria contained herein.
2. Areas owned and maintained by the Town shall maintain landscape and irrigation to the standards and Criteria defined by the Town Parks and Recreation Department.

Appendix

Appendix A: Temporary Irrigation Criteria

Appendix B: Turf Grasses

Castle Rock Water
Securing our future drop by drop

TEMPORARY IRRIGATION

1. Criteria

The purpose of temporary irrigation is to germinate native seed and establish native vegetation, it is not intended for continuous use during establishment period (assumed to be two (2) years). This means that the temporary system will not be operated on a three (3) day per week watering schedule after the initial thirty (30) day irrigation exemption period.

a. The native soil must be amended with three (3) cu yds. of organic compost per one thousand (1,000) sq. ft.
b. This amendment must be incorporated into the soil via tractor ripping.

2. Seeding

Seeding shall take place as recommended by Town. Seasonal weather conditions shall be taken into consideration when scheduling seed and mulch installation. Seeding shall not occur between June 15th and September 1st. Coordinate with Castle Rock Water's Conservation Division for guidance. Generally, if a Red Flag Warning and/or local fire restriction has been issued, no seeding shall commence until such time that the warnings/restrictions have been released.

a. Drill seeding is required.
b. Slopes steeper than 3:1 are not permitted.
c. Temporary irrigation systems and irrigation exemptions will meet the following specifications:

    i. The irrigation system must be above ground and removed at the end of the approved establishment period.
    ii. Sprinkler heads used for temporary irrigation must have an application rate not to exceed .75”/hour. Traditional spray heads/nozzles are not allowed.
    iii. The irrigation exemption shall not exceed thirty (30) days.
    iv. Seed ticket(s) for areas temporarily irrigated are to be provided to Castle Rock Water.
    v. Town of Castle Rock hydraulic worksheet (required on construction documents) will show both permanent and temporary irrigated areas. These should be listed separately and not combined.
    vi. Tap sizing will be determined by the permanent irrigated plant material.

3. Irrigation

Watering shall occur between the hours of 12 a.m. and 8 a.m. No watering will be permitted outside of these times.

a. A hydrant meter issued by the Town may be used to meter temporary irrigation water. Hydrant meter assembly shall be secured with anti-theft cage and protected from freezing. Hydrant meter shall be connected to 2" fitting on hydrant. The 4" fitting shall be reserved for the fire department to use in fighting fires. Hydrant meter assembly will be removed at end of growing season and returned to the Town. Applicant will follow hydrant meter permit requirements.
b. Water will be billed at the applicable tier two (2) irrigation rate (see current year rates and fees). An establishment water budget will be implemented as follows:

   i. For the first four weeks:
      - Two 9 minute cycles per zone @ .4"/hour = .12" of water per day
      - .12"/day x 7 days/week = .84"/week
      - .84"/week x 4 weeks = 3.36" for the first 4 weeks
      - 3.36" x .62 = 2.0832 gallons / square foot
      - 2.0832 gallons/square foot x 43,560 square feet in an acre = 90,744 gallons/acre
   ii. For the second four weeks (transition to fixed three days per week as indicated on the standard non-residential schedule):
      - One 15 minute cycle per zone @ .4"/hour = .1" of water per day
      - .1"/day x 3 days/week = .3"/week
      - .3"/week x 4 weeks = 1.2" for the second 4 weeks
      - 1.2" x .62 = .744 gallons / square foot
      - .744 gallons/square foot x 43,560 square feet in an acre = 32,409 gallons/acre
   iii. Moving forward continue to transition to as-needed only, not to exceed 1" per month:
      - 1" per month x .62 = .62 gallons per square foot
      - .62 gallons per square foot x 43,560 square feet in an acre = 27,007 gallons per acre

   All water used in excess of the budget will be billed at the applicable tier three (3) excess rate. These rates are subject to change annually based on an annual rates and fees study by the Town.

c. A waterproof sign measuring a minimum of 2 feet by 2 feet shall be visible from each adjacent road. The sign shall contain:
   - **TEMPORARY IRRIGATION**.
   - Dates of the temporary irrigation.
   - Contractor's contact information.

   (See example on next page)

4. Conclusion

a. The contractor must contact Castle Rock Water, Stormwater hotline at 720-733-2235, a minimum of one week prior to the expiration of the temporary irrigation exemption to evaluate the level of establishment.
b. Upon expiration of the approved establishment period, all components of the temporary irrigation system must be removed. Equipment to be removed includes: irrigation controller, control valves, manual ball valves, all fittings used to connect valves to mainline, valve boxes, above ground lateral piping, sprinkler heads, and all associated staking materials. Below ground irrigation mainline and wiring can be abandoned in place.

TEMPORARY IRRIGATION

05/01/2021 - 05/30/2021

ABC BUILDER, 303-555-5555

Turf Grass Varieties Recommended for Single Family Homes

Type	Available At
Texas Hybrid Bluegrass Blends	
Thermal Blue	Big Foot Turf Green Valley Turf
Thermal Blue Blaze	Wolf Creek Farms Horizon Turf Nursery
Bandera Hybrid Texas Bluegrass	Horizon Turf Nursery
BTF Texas	Bittersweet Turf Farms
HY-Performance Bluegrass	Graff's Turf Farm
Vortex	Korby Sod LLC
Seed Blends	
Reveille Turfgrass	Echters Garden Center
SPF30 Texas Hybrid Blend	Classic Turf
Drought Tolerant Blends	
Enviroturf	Turf Master
Turf Tall Fescue Blends	
RTF Water Saving	Green Valley Turf
Black Beauty	Korby Sod LLC Graffs Turf farm Echters Garden Center
GTF Fescue	Graffs Turf farm
TarHeel II Tall Fescue/Texas Hybrid Blend	Horizon Turf Nursery
Regiment Tall Fescue/Texas Hybrid Blend	Horizon Turf Nursery
Crew Cut II Fescue/Texas Hybrid Blend	Horizon Turf Nursery
Fescue Blends	
Natures Prairie	Turf Master Sod Farms
Canadian Blue Fescue	Turf Master Sod Farms
Warm Season Grasses	
Legacy Buffalo	Green Valley Turf
Colorado Buffalo Blend	Turf Master Sod Farms
Dog Tuff™	Todd Valley Farms Gulley Green House Center Green House Browns Greenhouse

Turf Grass Varieties Recommended for Single Family Homes, cont.

Type	Available At
Seed Blends	
Buffalo Grass/Blue Grama	Echters Nursery and Garden Center
Blue Grama Grass	High Country Gardens
Buffalo Grass	Gurney's Seed and Nursery Co.
Perennial Rye Blend	Buffalo Brand Seed Company
Emerald III Blend	Buffalo Brand Seed Company
Low maintenance Mix	Buffalo Brand Seed Company
Low Grow Mix	Buffalo Brand Seed Company
Native turf mix	Buffalo Brand Seed Company
Artificial Turf	
Next 2 Natural Turf	Graffs Turf farm
Real Turf	Real Turf USA